athways plus 6

Teacher's Edition

CURRICULUM

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CURR

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NAME DATE

1. Write the meaning.

a) **6.329** 6 ones, 3 tenths, 2 hundredths and 9 thousandths

b) 5.007 5 ones, 0 tenths, 0 hundredths and 7 thousandths

c) 0.618 0 ones, 6 tenths, 1 hundredth and 8 thousandths

d) 9.999 9 ones, 9 tenths, 9 hundredths and 9 thousandths

e) 316.27 3 hundreds, 1 ten, 6 ones, 2 tenths and 7 hundredths

f) 3 724 895 3 millions, 7 hundred thousands, 2 ten thousands, 4 thousands, 8 hundreds, 9 tens and 5 ones

g) 1 043 267 1 million, 0 hundred thousands, 4 ten thousands, 3 thousands, 2 hundreds, 6 tens and 7 ones

2. Write in expanded form.

a) **78 964.03** 70 000 + 8000 + 900 + 60 + 4 + 0.0 + 0.03

b) 786.111 700 + 80 + 6 + 0.1 + 0.01 + 0.001

c) 9.009 9 + 0.0 + 0.00 + 0.009

d) 327.608 300 + 20 + 7 + 0.6 + 0.00 + 0.008

e) 4218.753 4000 + 200 + 10 + 8 + 0.7 + 0.05 + 0.003

f) 2 956 781.326 2 000 000 + 900 000 + 50 000 + 6000 + 700 + 80 + 1 + 0.3 + 0.02 + 0.006

g) 1 064 218.4 1 000 000 + 000 000 + 60 000 + 4000 + 200 + 10 + 8 + 0.4

h) 9 803 427.123 9 000 000 + 800 000 + 00 000 + 3000 + 400 + 20 + 7 + 0.1 + 0.02 + 0.003

3. What number is represented?

a) **800 + 60 + 4 + 0.3 + 0.05** 864.35

b) 500 + 50 + 3 + 0.7 + 0.06 553.76

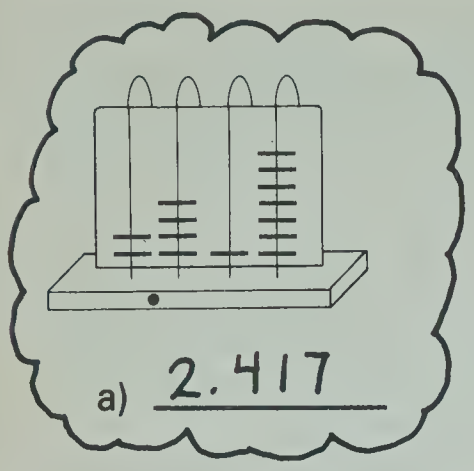
c) 700 + 10 + 1 + 0.2 + 0.03 711.23

d) 200 + 20 + 2 + 0.2 + 0.02 222.22

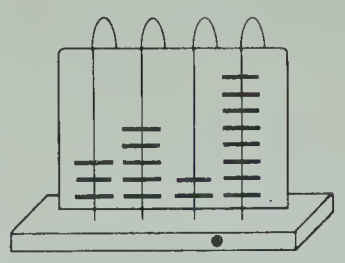
2755027

NAME DATE

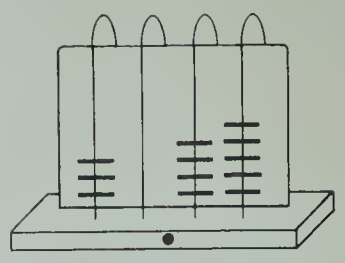
1. What number is represented?



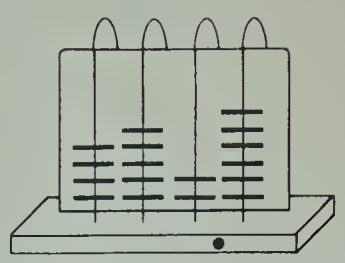
a) 2.417



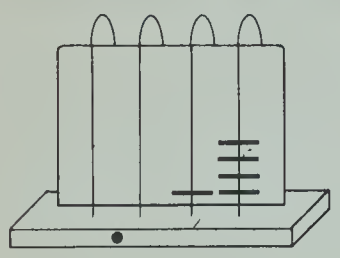
b) 352.8



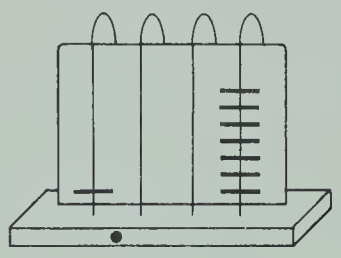
c) 30.45



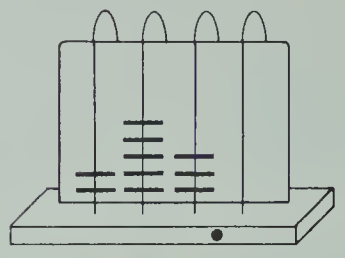
d) 452.6



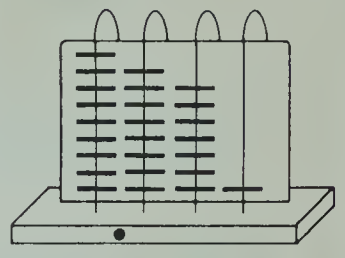
e) 0.014



f) 1.007

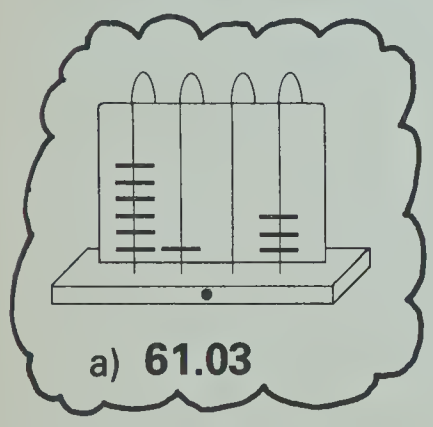


g) 253

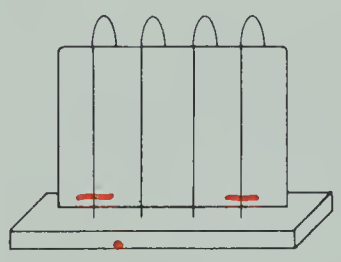


h) 9.871

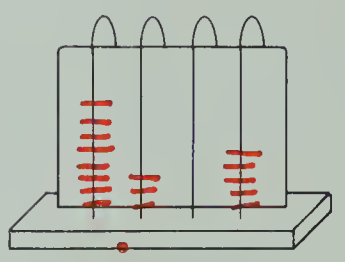
2. Show the number on the abacus.
Place the decimal point.



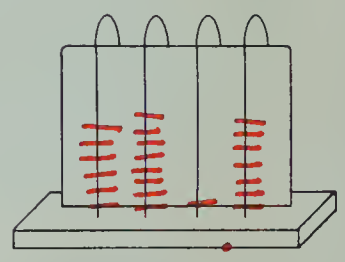
a) **61.03**



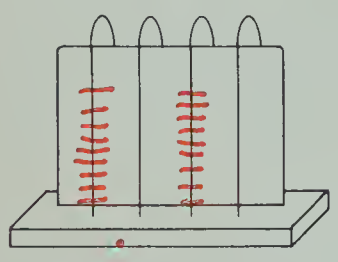
b) 1.001



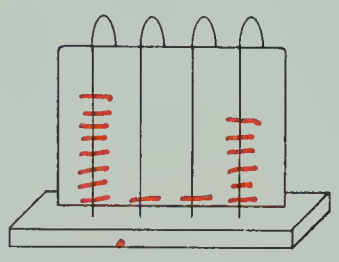
c) 8.305



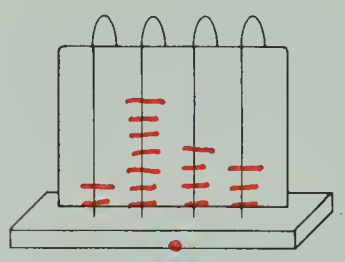
d) 681.7



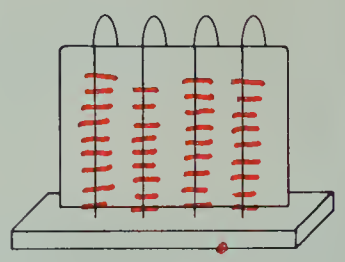
e) 9.09



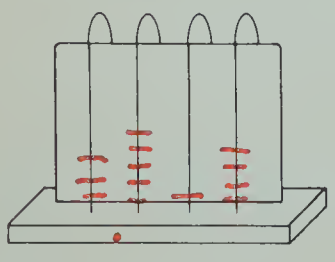
f) 8.116



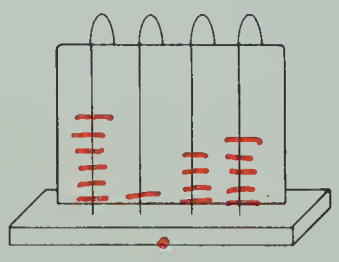
g) 27.43



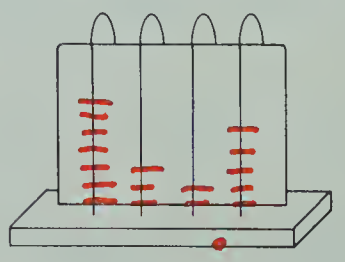
h) 999.9



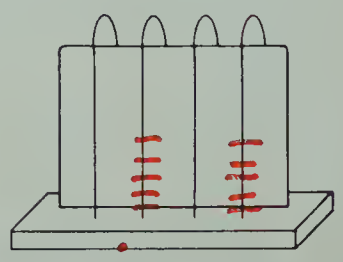
i) 3.514



j) 61.45



k) 732.5



l) 0.505

Additional practice in place value, millions to thousandths, to follow page 4

NAME DATE

1. Complete the chart.

Standard Numeral	Factor Form	Power Form
32	$2\times2\times2\times2\times2$	2^5
1 000	$10\times10\times10$	10^3
64	8×8	8^2
100 000	$10\times10\times10\times10\times10$	10^5
15 625	$5\times5\times5\times5\times5\times5$	5^6
2 401	$7\times7\times7\times7$	7^4
59 049	$9\times9\times9\times9\times9$	9^5
100 000	$10\times10\times10\times10\times10$	10^5
4 096	$4\times4\times4\times4\times4\times4$	4^6

2. Write in power form.

a) $0.05 = \frac{5}{10^2}$

b) $0.06 = \frac{6}{10^2}$

c) $0.009 = \frac{9}{10^3}$

d) $0.08 = \frac{8}{10^2}$

e) $0.4 = \frac{4}{10^1}$

f) $0.001 = \frac{1}{10^3}$

3. Complete.

a) $\frac{4}{10^2} = 0.04$

b) $\frac{6}{10^1} = 0.6$

c) $\frac{8}{10^3} = 0.008$

d) $\frac{3}{10^2} = 0.03$

e) $\frac{9}{10^1} = 0.9$

f) $\frac{7}{10^3} = 0.007$

NAME DATE

1. Add.

a)
364
768
297
569
1998

Think	Record
16, 24, 28	8
8, 17, 23, 29	9
7, 9, 16, 19	19

b) 467 329 843 596 — 2235

c) 823 589 792 248 — 2452

d) 975 846 723 854 — 3398

e) 389 726 493 852 798 — 3258

f) 254 839 625 534 796 — 3048

g) 385 297 648 772 989 — 3091

h) 438 589 790 284 599 — 2700

i) 638 549 293 854 723 — 3057

j)
47.23
29.78
12.56
89.57

Think	Record
14, 17	7
6, 13, 15	5
3, 12, 19	9
2, 4, 8	8

k) 42.63 87.19 29.76 — 159.58

l) 65.32 9.88 74.69 — 149.89

m) 74.38 61.09 93.07 — 228.54

2. Find the total amount.

a) $14.79 28.65 9.82 — $53.26

b) $48.73 9.99 67.45 — $126.17

c) $56.27 35.84 72.67 — $164.78

d) $81.09 74.68 95.27 — $251.04

e) $69.27 38.56 81.75 — $189.58

f) $12.42 9.83 6.54 28.37 — $57.16

g) $82.19 94.36 8.52 69.79 — $254.86

h) $48.65 27.10 8.75 85.36 — $169.86

i) $62.47 39.85 9.94 89.76 — $202.02

j) $15.48 6.95 73.88 94.25 — $190.56

k) $ 1.95 16.54 37.92 88.79 — $145.20

l) $31.87 62.43 18.79 93.68 — $206.77

m) $82.49 61.73 9.89 27.45 — $181.56

n) $76.28 2.85 93.69 47.28 — $220.10

o) $84.29 9.56 73.43 28.68 — $195.96

Additional practice in addition to follow pages 8 to 9

NAME DATE

1. Subtract.

a) 56 234
39 489
16 745

Think	Record
14, 5	5
12, 4	4
11, 7	7
15, 6	6
4, 1	1

b) 29 283
18 174
11 109

c) 32 385
19 198
13 187

d) 43 420
27 628
15 792

e) 34 176
25 398
8 778

f) 83 421
56 522
26 899

g) 52 853
38 654
14 199

h) 29 320
18 394
10 926

i) 76 401
47 402
28 999

2. Find the difference in amount.

a) $8.54
6.65
$1.89

Think	Record
14, 9	9
14, 8	8
7, 1	1

b) $5.08
4.09
$0.99

c) $7.06
3.78
$3.28

d) $8.34
6.59
$1.75

e) $15.25
9.75
$ 5.50

f) $18.30
6.35
$11.95

g) $17.89
8.98
$ 8.91

h) $19.50
10.85
$ 8.65

i) $21.38
12.49
$ 8.89

j) $23.42
15.64
$ 7.78

k) $25.57
18.68
$ 6.89

l) $31.23
24.75
$ 6.48

m) $38.61
17.72
$20.89

n) $41.27
16.48
$24.79

o) $61.40
44.86
$16.54

p) $72.35
53.66
$18.69

q) $84.06
47.39
$36.67

r) $91.46
63.58
$27.88

s) $83.57
36.58
$46.99

t) $124.15
86.28
$ 37.87

u) $254.17
86.29
$167.88

v) $375.18
129.49
$245.69

w) $403.05
189.16
$213.89

x) $511.83
495.87
$ 15.96

NAME DATE

1. **A bicycle tire costs $3.59, and the tube costs $2.29. What is the change from $20?**

$3.59 + 2.29 = $5.88 $20.00 − 5.88 = $14.12

The change is $14.12.

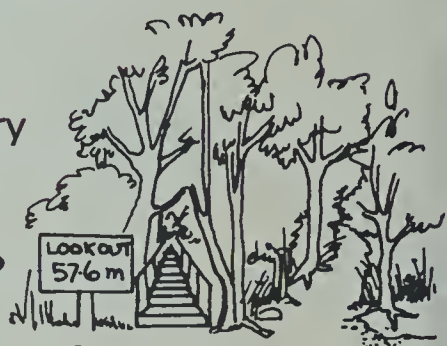
2. Yutaka takes 35 min to get washed and dressed, 28 min to eat breakfast and 29 min to walk to school.
He plans to arrive at school at 08:45.
What time should he get up?

35 + 28 + 29 = 92 92 min = 1h 32 min

08:45 − 1:32 = 07:13

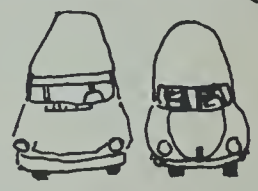
He should get up at at 07:13.

3. The distance from the parking lot to the lookout is 57.6 m using the stone steps.
Many people prefer to take the winding footpath that goes past the raspberry patch and the waterfall.
Using the footpath, the distance from the parking lot to the raspberry patch is 33.2 m, from the raspberry patch to the waterfall is 19.5 m, and from the waterfall to the lookout is 27.4 m.
How much greater is the distance to the lookout using the footpath?



33.2 + 19.5 + 27.4 = 80.1 57.6 − 22.5 = 22.5

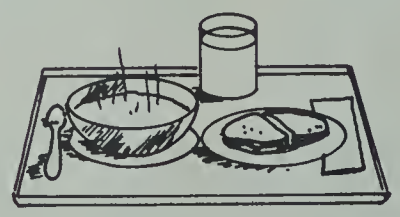
The distance is 22.5 m greater.



4. Geeta takes 3.6 min to ski down the ski run.
It takes 8.2 min to go up to the top of the run in the chair lift.
She has to wait 4.5 min for the lift.
How long does it take her to make a complete run up and down the hill?

3.6 + 8.2 + 4.5 = 16.3 It takes her 16.3 min.

5. The luncheon special costs $2.89.
This includes soup, sandwich, dessert and milk.
Sophia did not want dessert.
She ordered soup at 55¢, a sandwich at $1.35, and milk at 25¢.
How much did she save?



$1.35 + 0.55 + 0.25 = $2.15 $2.89 − 2.15 = $0.74

She saved $0.74.

Additional practice in word problems to follow pages 10 to 16

NAME DATE

1. Nicholas saved $25.00 to buy camping equipment.
He bought supplies costing $2.57, $2.75, $8.49, and $6.98.
How much money does he have left?

$2.57 + 2.75 + 8.49 + 6.98 = $20.79

$25.00 − 20.79 = $4.21

He has $4.21 left.

2. By keeping the tires on her car correctly inflated
Rita drove 88 500 km on the same set of 4 tires.
This is 3500 km more than she expected.
What distance did she expect to drive on them?

88 500 − 3 500 = 85 000

She expected to drive 85 000 km.

3. The hard cover edition of a new book sold out at $8.95.
Two months later a paperback copy was advertised for $3.39.
What is the saving?

$8.95 − 3.39 = $5.56

The saving is $5.56.

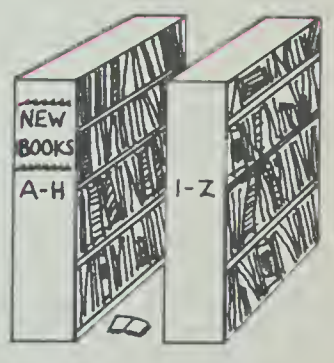
4. Michael checked in 3 pieces of luggage for the plane trip.
They had masses of 4.7 kg, 9.8 kg, and 6.8 kg.
He was allowed 20.0 kg without charge.
By how much was the mass of his luggage over the limit?

4.7 + 9.8 + 6.8 = 21.3

21.3 − 20.0 = 1.3

His luggage was 1.3 kg over the limit.

5. There were 495 books in the "New Book Section" in the library.
The librarian received 138 more books for this section.
Today 73 books are out on loan.
How many books are in the section now?



495 + 138 = 633

633 − 73 = 560

There are 560 books.

NAME DATE

Complete.

1. a) $6 \times 10 =$ 60
$6.3 \times 10 =$ 63
$46.03 \times 10 =$ 460.3

b) $6 \times 100 =$ 600
$6.3 \times 100 =$ 630
$46.03 \times 100 =$ 4603

c) $0.9 \times 1 =$ 0.9
$0.9 \times 10 =$ 9
$0.9 \times 100 =$ 90

2. a) $4 \times 10 =$ 40

b) $40 \times 10 =$ 400

c) $400 \times 10 =$ 4000

d) $0.4 \times 10 =$ 4

e) $0.04 \times 10 =$ 0.4

f) $0.64 \times 10 =$ 6.4

g) $24.3 \times 10 =$ 243

h) $1.71 \times 10 =$ 17.1

i) $14.01 \times 10 =$ 140.1

j) $0.1 \times 10 =$ 1

k) $0.01 \times 10 =$ 0.1

l) $0.11 \times 10 =$ 1.1

m) $1.1 \times 10 =$ 11

n) $1.11 \times 10 =$ 11.1

o) $11.11 \times 10 =$ 111.1

3. a) $3 \times 100 =$ 300

b) $30 \times 100 =$ 3000

c) $300 \times 100 =$ 30 000

d) $0.3 \times 100 =$ 30

e) $0.03 \times 100 =$ 3

f) $0.33 \times 100 =$ 33

g) $18.1 \times 100 =$ 1810

h) $1.14 \times 100 =$ 114

i) $24.03 \times 100 =$ 2403

j) $0.1 \times 100 =$ 10

k) $0.01 \times 100 =$ 1

l) $0.11 \times 100 =$ 11

m) $1.1 \times 100 =$ 110

n) $10 \times 100 =$ 1000

o) $11.1 \times 100 =$ 1110

4. a) 1 dime = 10 cents

b) 5 dimes = 50 cents

c) 7 dimes = 70 cents

d) 8 dimes = 80 cents

e) 25 dimes = 250 cents

f) 30 dimes = 300 cents

g) 1 dollar = 10 dimes

h) 6 dollars = 60 dimes

i) 50 dollars = 500 dimes

5. a) 1 dollar = 100 cents

b) 5 dollars = 500 cents

c) 12 dollars = 1200 cents

d) 25 dollars = 2500 cents

e) 50 dollars = 5000 cents

f) 100 dollars = 10 000 cents

Additional practice in multiplying by 10, 100, to follow page 17

NAME DATE

1. Complete the patterns.

a) $56 \times 10 = 560$ $560 \div 10 = 56$

$6 \times 10 = 60$ $60 \div 10 = 6$

$0.6 \times 10 = 6$ $6 \div 10 = 0.6$

$0.06 \times 10 = 0.6$ $0.6 \div 10 = 0.06$

b) $56 \times 100 = 5600$ $5600 \div 100 = 56$

$6 \times 100 = 600$ $600 \div 100 = 6$

$0.6 \times 100 = 60$ $60 \div 100 = 0.6$

$0.06 \times 100 = 6$ $6 \div 100 = 0.06$

2. Complete.

a) $4 \div 10 = 0.4$ b) $17 \div 10 = 1.7$ c) $84 \div 10 = 8.4$ d) $0.3 \div 10 = 0.03$

e) $37 \div 10 = 3.7$ f) $4.3 \div 10 = 0.43$ g) $5.9 \div 10 = 0.59$ h) $199 \div 10 = 19.9$

i) $1 \div 10 = 0.1$ j) $0.1 \div 10 = 0.01$ k) $11 \div 10 = 1.1$ l) $111 \div 10 = 11.1$

m) $10 \div 10 = 1$ n) $100 \div 10 = 10$ o) $1.1 \div 10 = 0.11$ p) $1000 \div 10 = 100$

3. Complete.

a) $57 \div 100 = 0.57$ b) $5 \div 100 = 0.05$ c) $157 \div 100 = 1.57$ d) $99 \div 100 = 0.99$

e) $8 \div 100 = 0.08$ f) $80 \div 100 = 0.8$ g) $800 \div 100 = 8$ h) $8000 \div 100 = 80$

i) $125 \div 100 = 1.25$ j) $25 \div 100 = 0.25$ k) $100 \div 100 = 1$ l) $10 \div 100 = 0.1$

m) $1 \div 100 = 0.01$ n) $1000 \div 100 = 10$ o) $10\,000 \div 100 = 100$ p) $7000 \div 100 = 70$

4. Complete.

a) $19 \div 1 = 19$ b) $19 \div 10 = 1.9$ c) $19 \div 100 = 0.19$ d) $190 \div 100 = 1.9$

e) $19 \times 1 = 19$ f) $19 \times 10 = 190$ g) $19 \times 100 = 1900$ h) $190 \times 100 = 19000$

i) $9 \div 1 = 9$ j) $9 \div 10 = 0.9$ k) $9 \div 100 = 0.09$ l) $90 \div 100 = 0.9$

m) $600 \div 100 = 6$ n) $6000 \div 100 = 60$ o) $78 \div 100 = 0.78$ p) $265 \div 100 = 2.65$

5. Complete.

a) 50 cents = 5 dimes b) 150 cents = 15 dimes c) 30 cents = 3 dimes

d) 60 cents = 6 dimes e) 90 cents = 9 dimes f) 100 cents = 10 dimes

g) 100 cents = 1 dollar h) 50 cents = 0.5 dollars i) 200 cents = 2 dollars

j) 40 dimes = 4 dollars k) 80 dimes = 8 dollars l) 25 cents = 0.25 dollars

m) 47 cents = 0.47 dollars n) 85 cents = 0.85 dollars o) 60 cents = 0.6 dollars

NAME DATE

1. Complete the patterns.

a) $6 \times 10 = 60$ $60 \div 10 = 6$

$6 \times 100 = 600$ $600 \div 100 = 6$

$6 \times 1000 = 6000$ $6000 \div 1000 = 6$

b) $4.13 \times 10 = 41.3$ $41.3 \div 10 = 4.13$

$4.13 \times 100 = 413$ $413 \div 100 = 4.13$

$4.13 \times 1000 = 4130$ $4130 \div 1000 = 4.13$

c) $4.6 \times 10 = 46$ $46 \div 10 = 4.6$

$4.6 \times 100 = 460$ $460 \div 100 = 4.6$

$4.6 \times 1000 = 4600$ $4600 \div 1000 = 4.6$

d) $17.8 \times 10 = 178$ $178 \div 10 = 17.8$

$17.8 \times 100 = 1780$ $1780 \div 100 = 17.8$

$17.8 \times 1000 = 17800$ $17800 \div 1000 = 17.8$

e) $28 \times 1000 = 28\,000$

$2.8 \times 1000 = 2800$

$0.28 \times 1000 = 280$

$0.028 \times 1000 = 28$

f) $34\,000 \div 1000 = 34$

$3400 \div 1000 = 3.4$

$340 \div 1000 = 0.34$

$34 \div 1000 = 0.034$

g) $10\,000 \div 1000 = 10$

$1000 \div 1000 = 1$

$100 \div 1000 = 0.1$

$10 \div 1000 = 0.01$

h) $0.07 \times 1000 = 70$

$0.007 \times 1000 = 7$

i) $0.01 \times 1000 = 10$

$0.001 \times 1000 = 1$

j) $1111 \div 1000 = 1.111$

$111 \div 1000 = 0.111$

2. Complete.

a) $1.3 \times 1000 = 1300$

b) $401 \div 1000 = 0.401$

c) $1001 \div 1000 = 1.001$

d) $0.01 \times 1000 = 10$

e) $0.001 \times 1000 = 1$

f) $1.001 \times 1000 = 1001$

3. A carton contains 1000 paper napkins.

a) How many paper napkins are there in 15 cartons?

$$\begin{array}{r} 1\,000 \\ \times\ 15 \\ \hline 15\,000 \end{array}$$

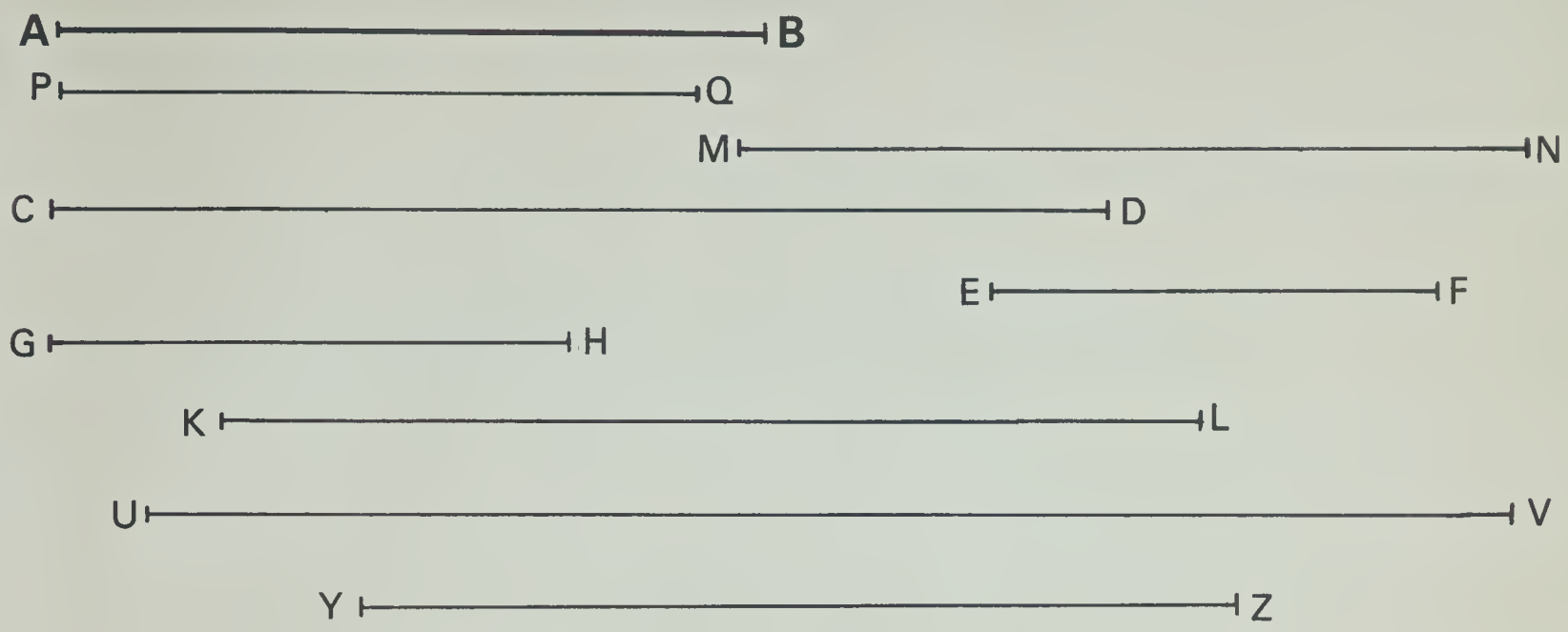
There are 15 000 napkins.

b) A large restaurant uses 8500 napkins each month.
How many cartons of napkins are needed monthly?

$8500 \div 1000 = 8.5$

8.5 cartons are needed.

Measure each line segment in millimetres.
Express each length in centimetres, decimetres, and metres.



a) **AB** = 80 mm
AB = (80 ÷ 10) or 8 cm
AB = (80 ÷ 100) or 0.8 dm
AB = (80 ÷ 1000) or 0.08 m

b) PQ = 72 mm
PQ = (72 ÷ 10) or 7.2 cm
PQ = (72 ÷ 100) or 0.72 dm
PQ = (72 ÷ 1000) or 0.072 m

c) MN = 90 mm
MN = (90 ÷ 10) or 9 cm
MN = (90 ÷ 100) or 0.9 dm
MN = (90 ÷ 1000) or 0.09 m

d) CD = 120 mm
CD = 12 cm
CD = 1.2 dm
CD = 0.12 m

e) EF = 51 mm
EF = 5.1 cm
EF = 0.51 dm
EF = 0.051 m

f) GH = 59 mm
GH = 5.9 cm
GH = 0.59 dm
GH = 0.059 m

g) KL = 111 mm
KL = 11.1 cm
KL = 1.11 dm
KL = 0.111 m

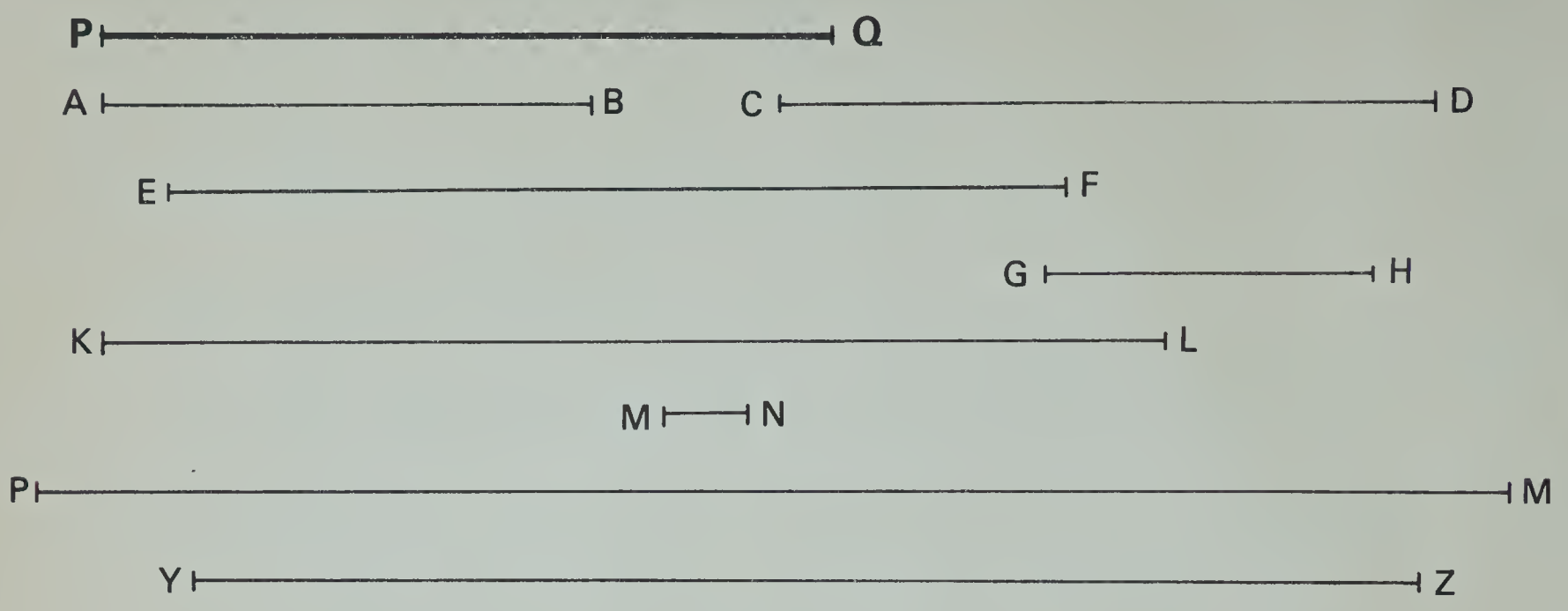
h) UV = 155 mm
UV = 15.5 cm
UV = 1.55 dm
UV = 0.155 m

i) YZ = 100 mm
YZ = 10 cm
YZ = 1 dm
YZ = 0.1 m

Additional practice in linear measurement, mm, cm, dm, m, to follow page 22

NAME DATE

Measure each line segment in centimetres.
Express each length in millimetres, decimetres, and metres.



a) PQ = 9 cm
PQ = (9 × 10) or 90 mm
PQ = (9 ÷ 10) or 0.9 dm
PQ = (9 ÷ 100) or 0.09 m

b) AB = 6 cm
AB = (6 × 10) or 60 mm
AB = (6 ÷ 10) or 0.6 dm
AB = (6 ÷ 100) or 0.06 m

c) CD = 8 cm
CD = (8 × 10) or 80 mm
CD = (8 ÷ 10) or 0.8 dm
CD = (8 ÷ 100) or 0.08 m

d) EF = 11 cm
EF = 110 mm
EF = 1.1 dm
EF = 0.11 m

e) GH = 4 cm
GH = 40 mm
GH = 0.4 dm
GH = 0.04 m

f) KL = 13 cm
KL = 130 mm
KL = 1.3 dm
KL = 0.13 m

g) MN = 1 cm
MN = 10 mm
MN = 0.1 dm
MN = 0.01 m

h) PM = 18 cm
PM = 180 mm
PM = 1.8 dm
PM = 0.18 m

i) YZ = 15 cm
YZ = 150 mm
YZ = 1.5 dm
YZ = 0.15 m

Additional practice in linear measurement, mm, cm, dm, m, to follow page 23

1. **Anjanie plans to run 1.5 km every day.**
   The length of the sidewalk around her apartment building is 75 m.
   How many times must she run around the building each day to achieve her goal?

1.5 km = 1500 m
1500 ÷ 75 = 20
She must run around the building 20 times.

2. Mohan can shoot an arrow on target from a distance of 25 m.
   His sister can shoot an arrow on target from a distance of 0.05 km.
   How much farther can his sister shoot?

0.05 km = 50 m

$$\begin{array}{r} 50 \\ 25 \\ \hline 25 \end{array}$$

She can shoot 25 m further.

3. The relay race track set up for activity day is 50 m long.
   Each team must run 0.5 km.
   How many lengths of the track must each team run?

0.5 km = 500 km
500 ÷ 50 = 10
Each team must run 10 lengths.

4. The height of the CN tower is about 0.5 km.
   At a certain time of day, it casts a shadow about 800 m long.
   About how much longer is the shadow than the tower at that time?

0.5 km = 500 m

$$\begin{array}{r} 800 \\ 500 \\ \hline 300 \end{array}$$

The shadow is 300 m longer.

5. One section of railroad track is about 10 m long.
   a) About how many sections are needed for 1 km of track?

1 km = 1000 m
1000 ÷ 10 = 100
100 sections are needed.

   b) About how many sections are needed to build a track 100 km long?

100 km = 100 000 m
100 000 ÷ 10 = 10 000

or

100 sections are needed for 1 km
100 × 100 = 10 000

10 000 sections are needed for 100 km.

NAME DATE

Complete.

1. a) 12 mm = (12 ÷ 10) or 1.2 cm b) 1.5 cm = (1.5 × 10) or 15 mm

c) 27 cm = (27 ÷ 10) or 2.7 dm d) 3.5 dm = (3.5 × 10) or 35 cm

e) 85 cm = (85 ÷ 100) or 0.85 m f) 4.5 m = (4.5 × 100) or 450 cm

g) 195 m = (195 ÷ 1000) or 0.195 km h) 0.6 km = (0.6 × 1000) or 600 m

2. a) 38 mm = 3.8 cm b) 47 cm = 4.7 dm c) 52 cm = 0.52 m

d) 67 m = 0.067 km e) 175 mm = 1.75 dm f) 1428 mm = 1.428 m

3. a) 0.3 cm = 3 mm b) 1.3 dm = 13 cm c) 2.8 m = 280 cm

d) 3.1 km = 3100 m e) 0.05 m = 50 mm f) 1.4 dm = 140 mm

4. a) 4.2 cm = 42 mm b) 0.1 cm = 1 mm c) 27 cm = 0.27 m

d) 1.3 dm = 13 cm e) 0.51 dm = 51 mm f) 4.6 km = 4600 m

g) 1649 m = 1.649 km h) 0.5 m = 50 cm i) 0.1 dm = 0.01 m

j) 0.1 km = 100 m k) 125 dm = 12.5 m l) 17 dm = 170 cm

5. a) 20 dimes = 2 dollars b) 150 cents = 1.5 dollars

c) 37 dimes = 370 cents d) 200 cents = 2 dollars

e) 40 cents = 4 dimes f) 500 cents = 5 dollars

g) 50 cents = 0.5 dollars h) 75 cents = 0.75 dollars

6. a) 65 cm = 650 mm b) 275 mm = 27.5 cm c) 28 dm = 280 cm

65 cm = 0.65 m 275 mm = 2.75 dm 28 dm = 2800 mm

65 cm = 6.5 dm 275 mm = 0.275 m 28 dm = 2.8 m

d) 4.6 m = 460 cm e) 250 m = 0.25 km f) 5000 cm = 500 dm

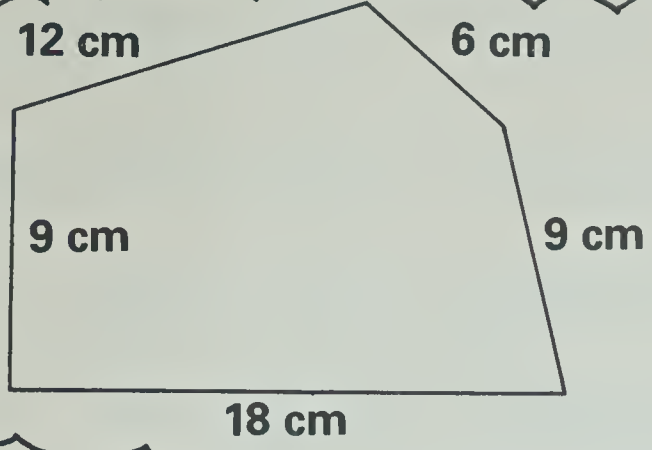
4.6 m = 46 dm 250 m = 2500 dm 5000 cm = 50 m

4.6 m = 4600 mm 250 m = 25 000 cm 5000 cm = 0.05 km

Additional practice in linear relations, m, cm, dm, mm, to follow page 26

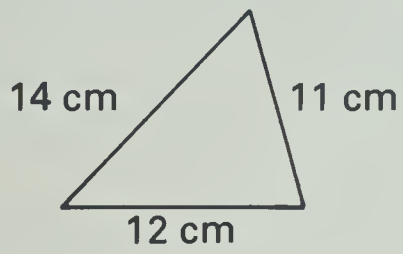
NAME DATE

Find the perimeter.



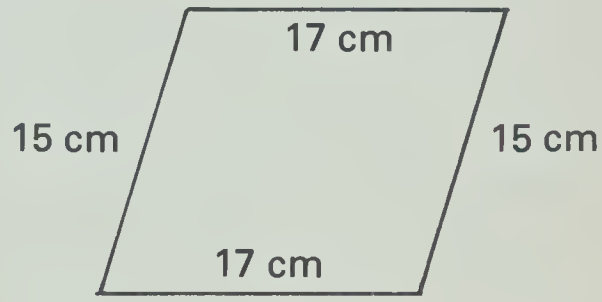
a) Perimeter = (18+9+12+6+9) cm

= 54 cm



b) Perimeter = (14+11+12) cm

= 37 cm

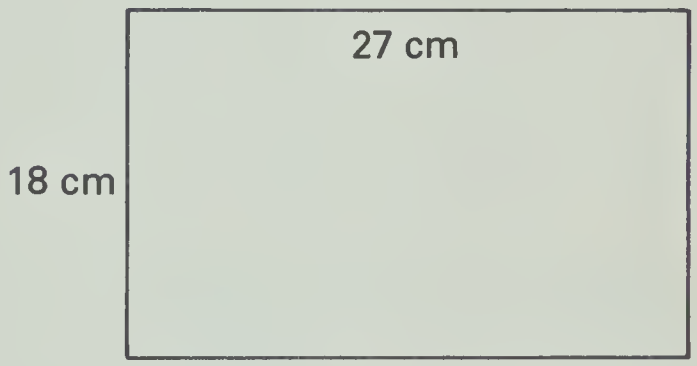


c) Perimeter = (15+17+15+17) cm

= 64 cm

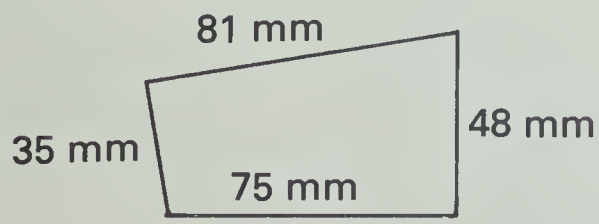
d) Perimeter = (21.5+21.5+21.5+21.5) cm

= 86 cm



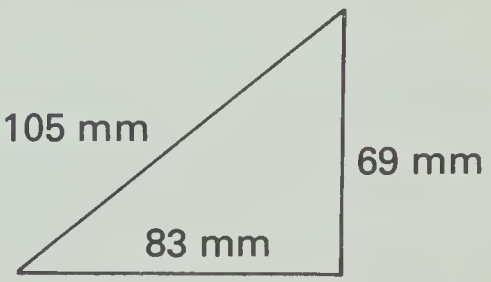
e) Perimeter = (27+18+27+18) cm

= 90 cm



f) Perimeter = (35+81+48+75) mm

= 239 mm

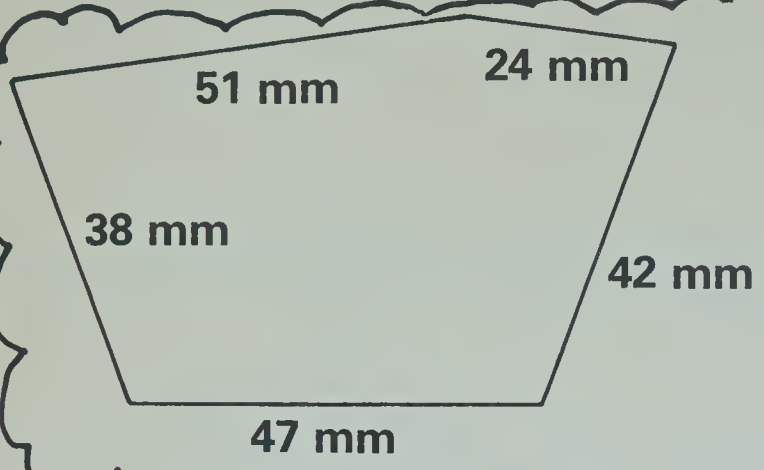


g) Perimeter = (105+69+83) mm

= 257 mm

NAME DATE

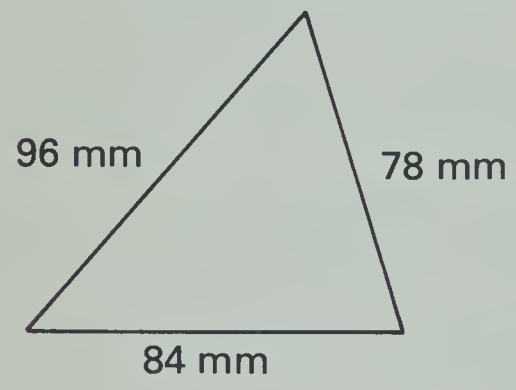
Find the perimeter.
Express the perimeter in centimetres.

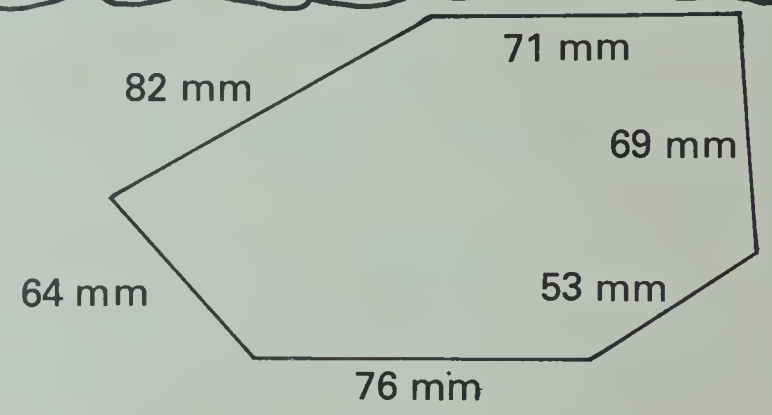


a) Perimeter = (47+38+51+24+42) mm

Perimeter = 202 mm

Perimeter = 20.2 cm





b) Perimeter = (84 + 96 + 78) mm

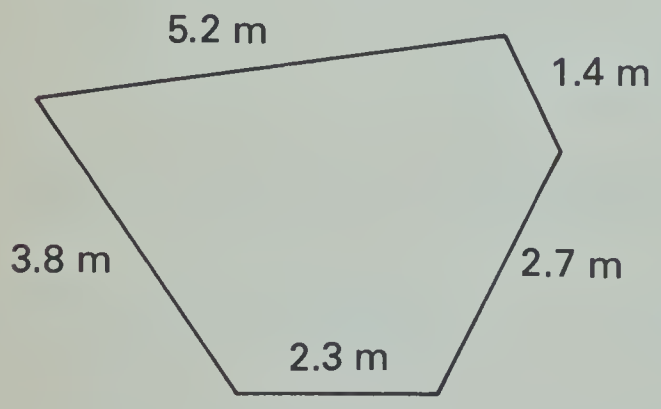
Perimeter = 258 mm

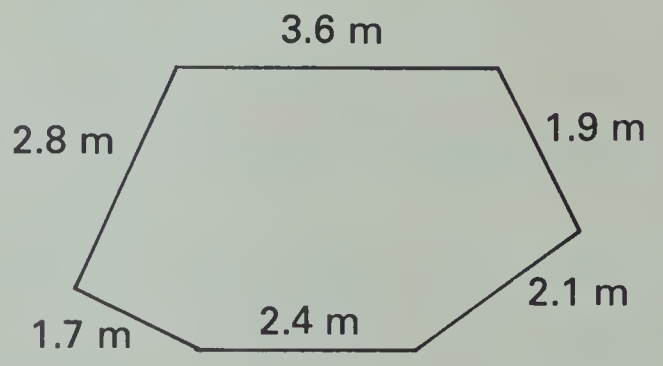
Perimeter = 25.8 cm

c) Perimeter = (76+64+82+71+69+53) mm

Perimeter = 415 mm

Perimeter = 41.5 cm





d) Perimeter = (2.3+3.8+5.2+1.4+2.7) m

Perimeter = 15.4 m

Perimeter = 1540 cm

e) Perimeter = (2.4+1.7+2.8+3.6+1.9+2.1) m

Perimeter = 14.5 m

Perimeter = 1450 cm

Additional practice in perimeter to follow pages 29 to 33

Multiply. Check by estimating.

a) 5 786 × 9 = 52 074

Think	Record
54	4
72, 77	7
63, 70	0
45, 52	52

Check: 5 786 × 9 is about 6 000 × 9 or 54 000

The product is reasonable.

b) 428 × 5 = 2 140

c) 2 653 × 6 = 15 918

d) 547 × 9 = 4 923

e) 3 628 × 7 = 25 396

f) 987 × 4 = 3 948

g) 6 573 × 8 = 52 584

h) 389 × 8 = 3 112

i) 5 839 × 7 = 40 873

j) 467 × 9 = 4 203

k) 6 839 × 6 = 41 034

l) 4 135 × 6 = 24 810

m) 8 456 × 4 = 33 824

n) 6 735 × 7 = 47 145

o) 7 489 × 8 = 59 912

p) 6 847 × 5 = 34 235

q) 3 294 × 8 = 26 352

r) 4 639 × 7 = 32 473

s) 8 428 × 9 = 75 852

Additional practice in multiplication to follow page 36

NAME DATE

Multiply.

1. a) 786 × 8 = 6288
b) 786 × 0.8 = 628.8
c) 78.6 × 8 = 628.8
d) 78.6 × 0.8 = 62.88

2. a) 678 × 7 = 4746
b) 678 × 0.7 = 474.6
c) 67.8 × 7 = 474.6
d) 67.8 × 0.7 = 47.46

3. a) 259 × 0.6 = 155.4
b) 47.1 × 9 = 423.9
c) 32.9 × 7 = 230.3
d) 643 × 0.8 = 514.4

e) 729 × 0.8 = 583.2
f) 87.2 × 6 = 523.2
g) 54.7 × 8 = 437.6
h) 916 × 0.7 = 641.2

i) 90.8 × 7 = 635.6
j) 658 × 0.9 = 592.2
k) 423.5 × 0.6 = 254.10
l) 24.63 × 8 = 197.04

m) 34.67 × 9 = 312.03
n) 48.67 × 0.9 = 43.803
o) 71.68 × 7 = 501.76
p) 84.69 × 8 = 677.52

Additional practice in multiplication to follow page 37

NAME DATE

Multiply. Check by estimating.

a) 83
47
581
332
3901

Think	Record
21	1
56, 58	58
next row	
12	2, one place left
32, 33	33

Check: 83 × 47 is about 80 × 50 or 4000.
The product is reasonable.

b) 29
37
203
87
1073

c) 58
84
232
464
4872

d) 86
28
688
172
2408

e) 91
53
273
455
4823

f) 79
28
632
158
2212

g) 72
69
648
432
4968

h) 31
68
248
186
2108

i) 47
52
94
235
2444

j) 57
38
456
171
2166

k) 87
59
783
435
5133

l) 98
64
392
588
6272

m) 78
43
234
312
3354

n) 64
39
576
192
2496

o) 81
97
567
729
7857

p) 65
27
455
130
1755

q) 83
49
747
332
4067

r) 96
38
768
288
3648

s) 71
46
426
284
3266

NAME DATE

Multiply. Check by estimating.

a) 93 × 6.8 = 744 + 558 = 632.4

Think	Record
24	4
72, 74	74
next row	
18	8, one place left
54, 55	55

Check: 93 × 6.8 is about 90 × 7 or 630.
The product is reasonable.

b) 72 × 4.3 = 216 + 288 = 309.6

c) 57 × 6.1 = 57 + 342 = 347.7

d) 6.9 × 23 = 207 + 138 = 158.7

e) 8.7 × 45 = 435 + 348 = 391.5

f) 9.8 × 39 = 882 + 294 = 382.2

g) 7.3 × 86 = 438 + 584 = 627.8

h) 0.53 × 47 = 371 + 212 = 24.91

i) 0.69 × 84 = 276 + 552 = 57.96

j) 0.49 × 37 = 343 + 147 = 18.13

k) 0.91 × 78 = 728 + 637 = 70.98

l) 6.9 × 2.4 = 276 + 138 = 16.56

m) 8.6 × 5.9 = 774 + 430 = 50.74

n) 7.8 × 3.9 = 702 + 234 = 30.42

o) 8.9 × 6.7 = 623 + 534 = 59.63

p) 84 × 0.76 = 504 + 588 = 63.84

q) 97 × 0.25 = 485 + 194 = 24.25

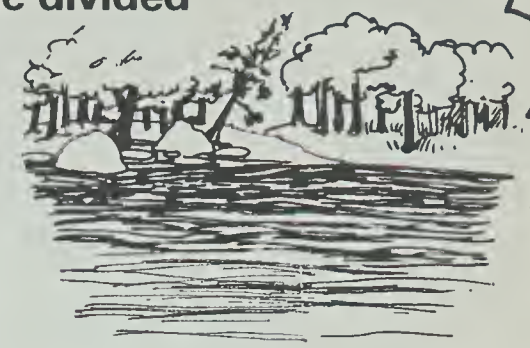
r) 3.8 × 0.75 = 190 + 266 = 2.850

s) 6.9 × 0.57 = 483 + 345 = 3.933

Additional practice in multiplication to follow page 39

NAME DATE

1. **A piece of land with a lake frontage of 483 m is to be divided into 23 lots with an equal lake frontage for each lot. Find the frontage for each lot.**



$483 \div 23 = 21$

The frontage is 21 m.

$$23\overline{)483}\quad 21,\ 46,\ 23,\ 23,\ 0$$

2. A dressmaker made a dress which required 3.4 m of material.
The material cost $3.95/m.
What was the total cost of the material for the dress?

$3.95 \times 3.4 = \$13.430$

The total cost was $13.43.

3. If 187 eggs have a mass of 17 kg, how many eggs would there be in 1 kg?

$$17\overline{)187}\quad 11,\ 17,\ 17,\ 0$$

There would be 11 eggs in 1 kg.

4. Find the amount of picture framing material required to make a frame 35 cm long and 25 cm wide.

$35 + 25 + 35 + 25 = 120$ cm

120 cm of framing is required.

5. A satellite travels 44 000 km in one orbit.
It makes 12 orbits/d.
How far does it travel in 1 d?

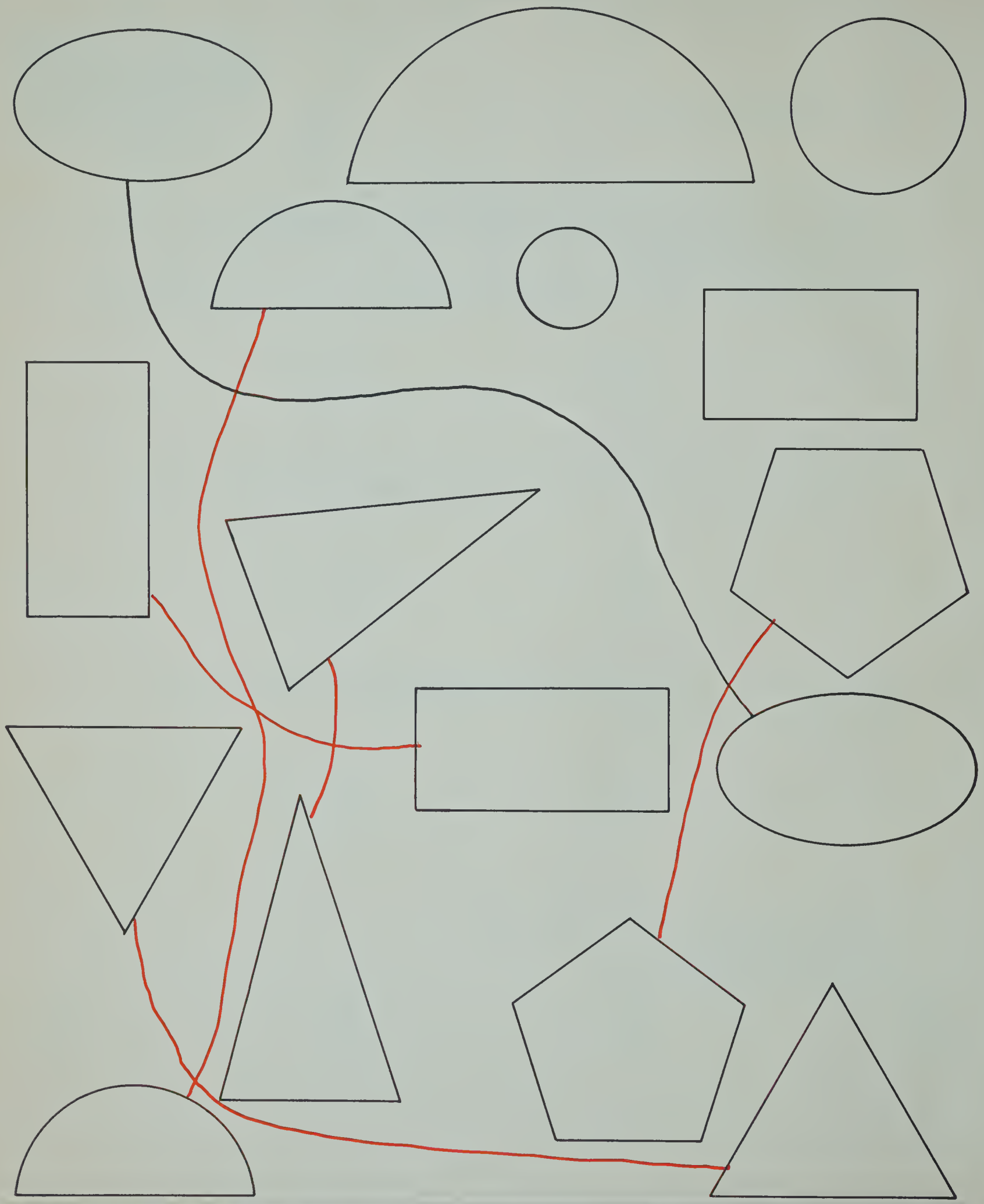
$44\,000 \times 12 = 88\,000$

$440\,00 = 528\,000$

It travels 528 000 km in 1 d.

NAME DATE

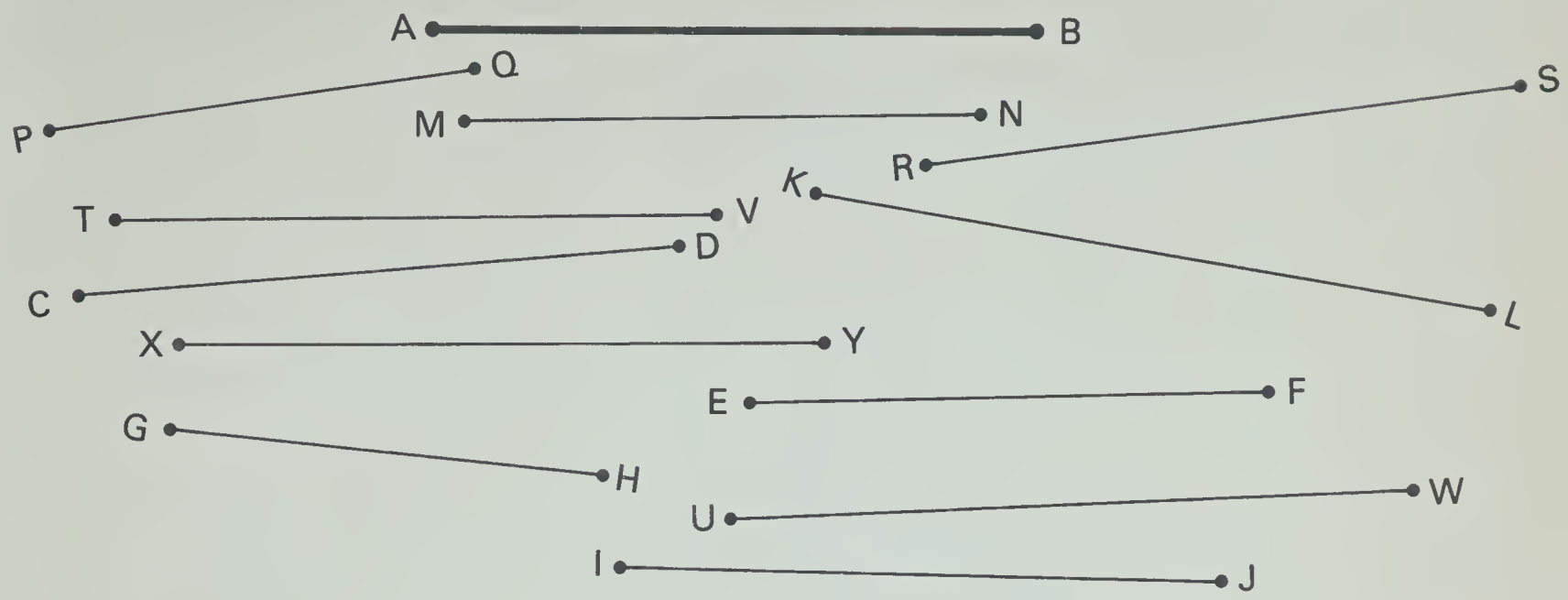
Draw lines to match congruent shapes. Use tracing paper to check.



Additional practice in congruency to follow pages 43 to 44

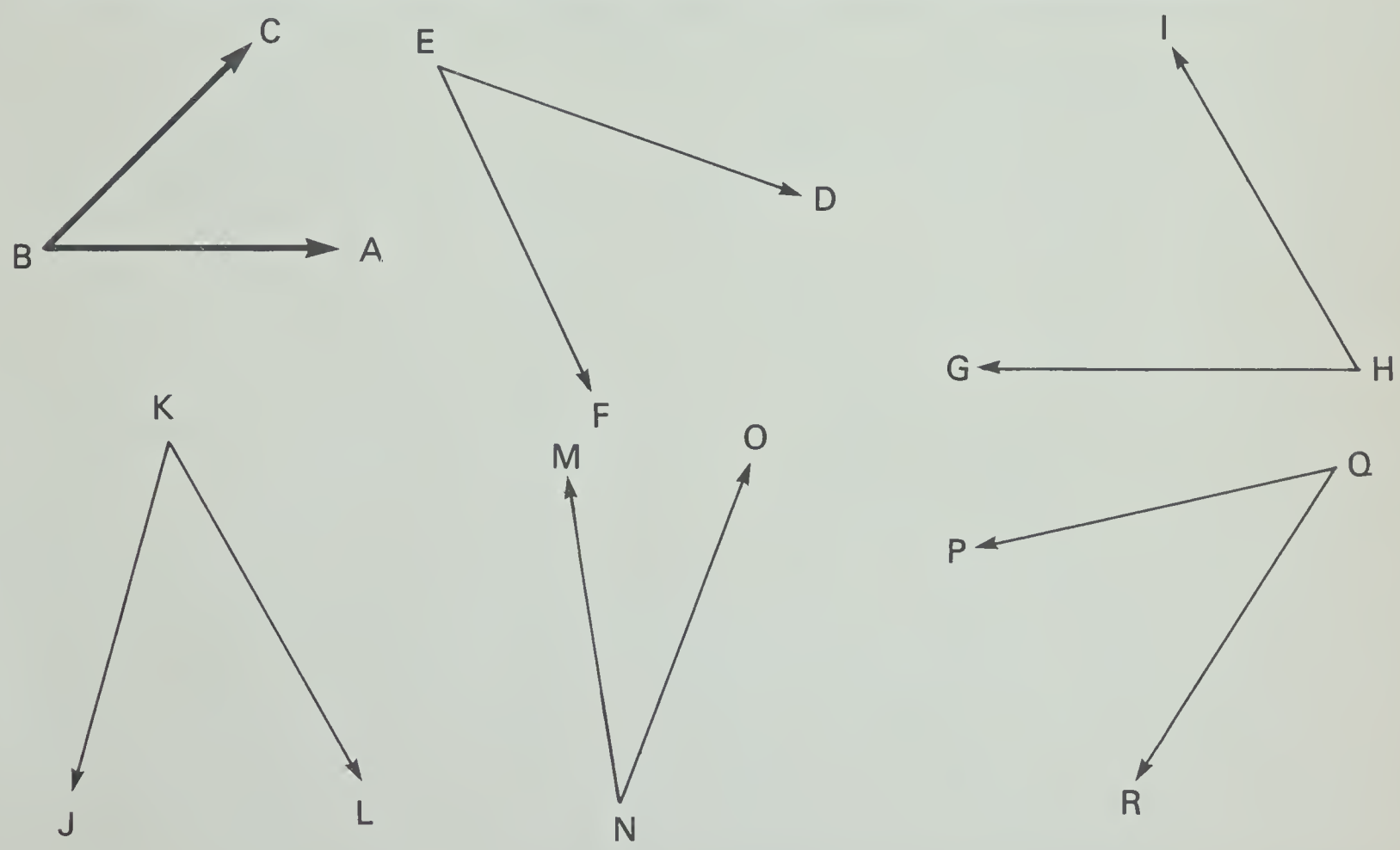
NAME DATE

1. List the line segments that are congruent to line segment AB.



RS, TV, CD, IJ

2. List the angles that are congruent to ∠ ABC.
Trace and cut out a model of ∠ ABC to help you find the congruent angles.

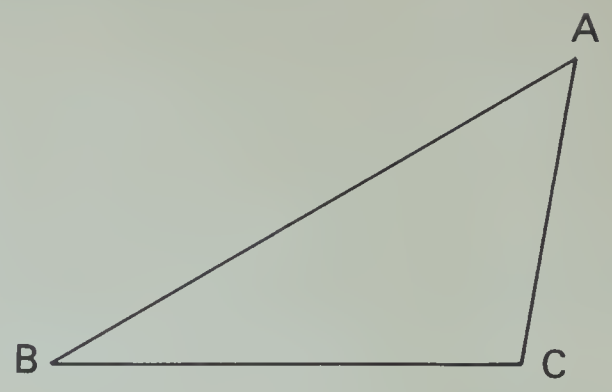


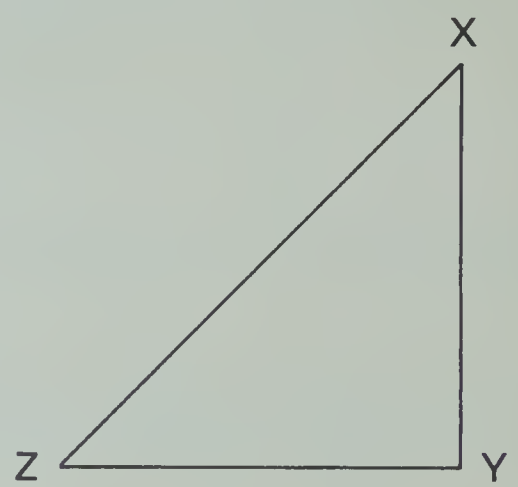
∠ DEF, ∠ JKL, ∠ PQR

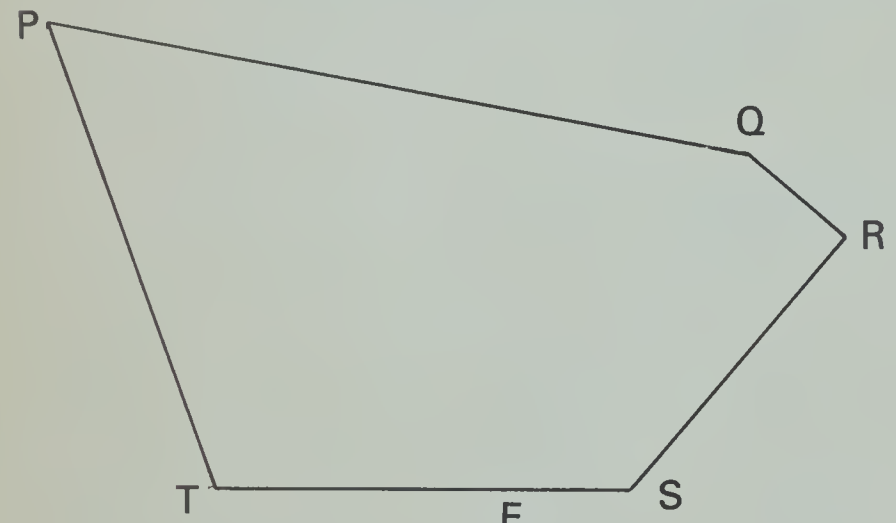
NAME DATE

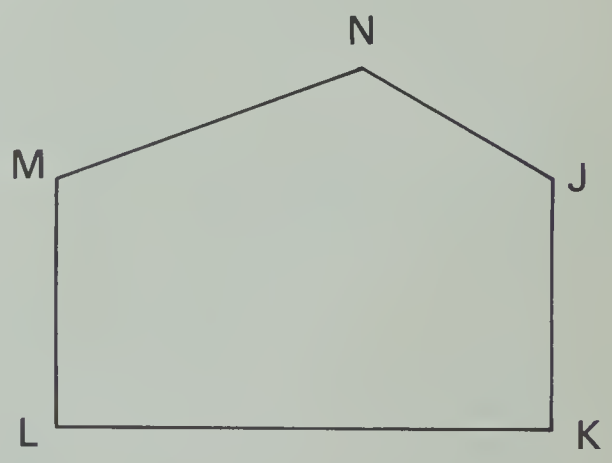
Complete the chart.
Name the acute angles, right angles, and obtuse angles found in these polygons.

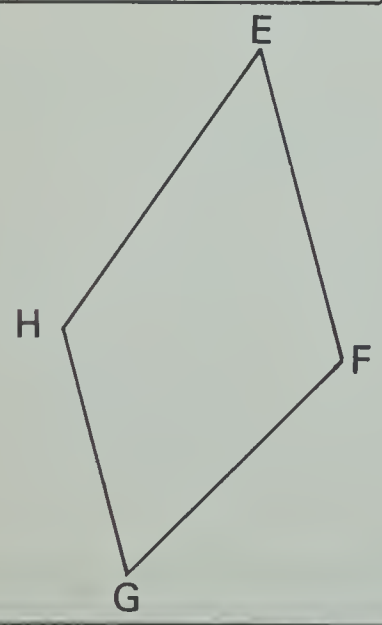
Acute Angles	Right Angles	Obtuse Angles
∠CAB	∠ZYX	∠ACB
∠ABC	∠SRQ	∠PTS
∠XZY	∠MLK	∠TSR
∠ZXY	∠LKJ	∠RQP
∠QPT		∠KJN
∠FEH		∠JNM
∠HGF		∠NML
∠UOW		∠EHG
∠WVU		∠GFE
		∠UWV
		∠VUO

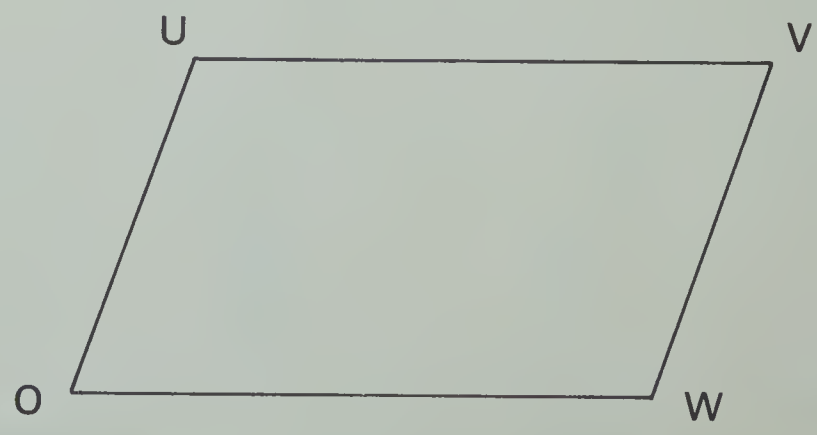








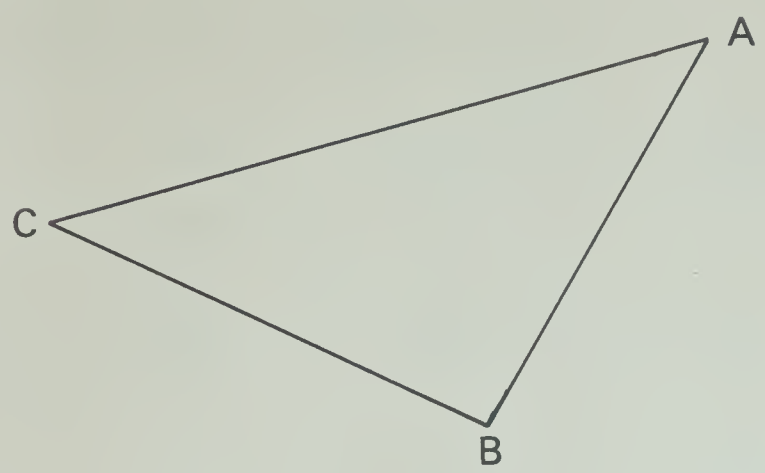


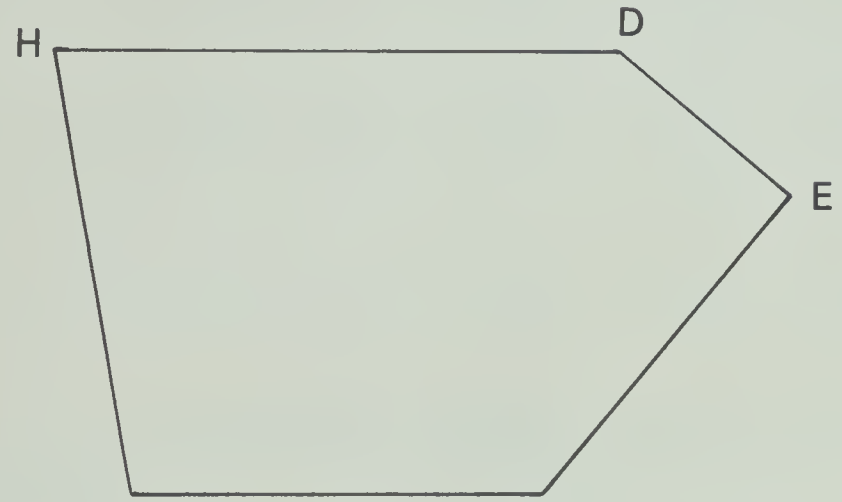


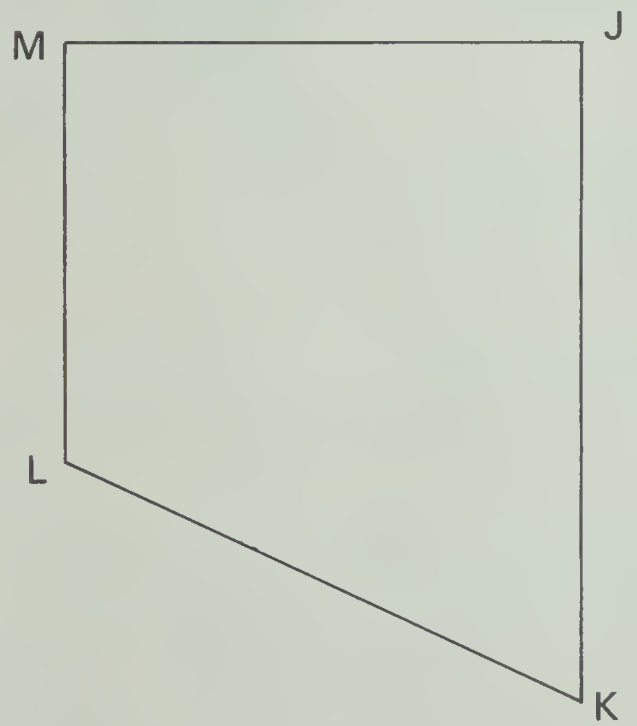
Additional practice in acute, right, obtuse angles to follow pages 46 to 48

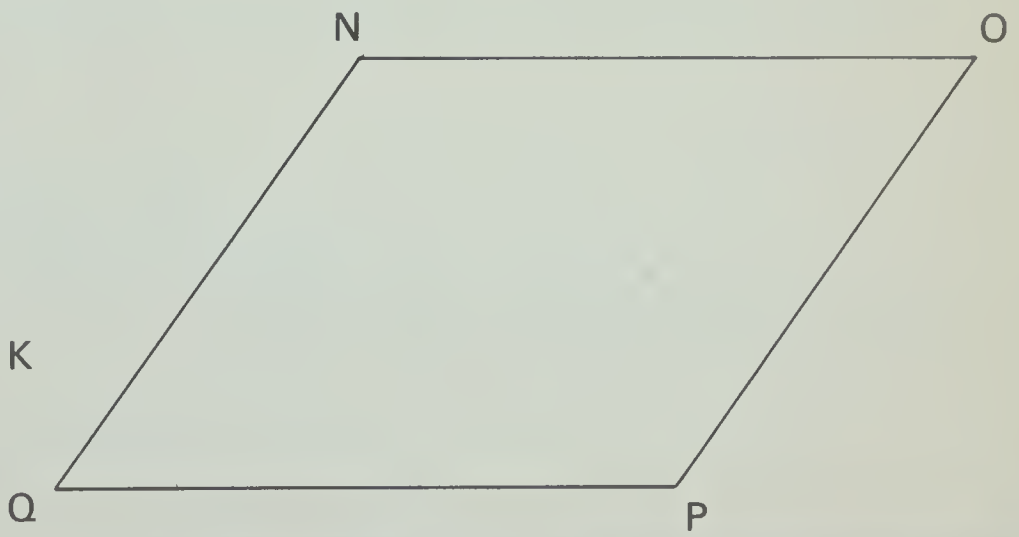
NAME DATE

Measure each angle with a protractor.
Record your measurements in the chart.









Angle	Measurement
∠ABC	95°
∠BAC	45°
∠BCA	40°
∠DEF	90°
∠EFG	130°
∠FGH	100°
∠GHD	80°
∠HDE	140°
∠JKL	65°
∠KLM	115°
∠LMJ	90°
∠MJK	90°
∠NOP	55°
∠OPQ	125°
∠PQN	55°
∠QNO	125°

Additional practice in measuring angles to follow page 50

NAME DATE

1. Complete.

a) 1000 mL = 1 L

500 mL = 0.5 L

b) 1 L = 1000 mL

2.5 L = 2500 mL

700 mL = 0.7 L

20 mL = 0.02 L

10 mL = 0.01 L

1 mL = 0.001 L

950 mL = 0.95 L

5876 mL = 5.876 L

10 000 mL = 10 L

12 638 mL = 12.638 L

5 L = 5000 mL

0.5 L = 500 mL

0.25 L = 250 mL

0.75 L = 750 mL

1.25 L = 1250 mL

1.5 L = 1500 mL

4.3 L = 4300 mL

6.8 L = 6800 mL

2. The capacity of the radiator in Ying's car is 15 L.
She must fill the radiator with a mixture of water and antifreeze.

a) If the mixture contains 9 L of water, how many litres of antifreeze does she need?

15
9
6

She needs 6 L of antifreeze.

b) What is the total cost of the antifreeze if it sells for $1.25/L?

$1.25
6
$7.50

The total cost is $7.50.

3. If your shower uses about 0.25 L of water each second, about how many litres of water would you use in 1 min?

0.25
60
000
150
15.00

1 min = 60 s

15 L of water would be used in 1 min.

Additional practice in capacity, mL, L, to follow pages 53 to 54

NAME DATE

1. Complete.

a) 1 kL = 1000 L

2 kL = 2000 L

12 kL = 12 000 L

75 kL = 75 000 L

1.5 kL = 1 500 L

0.5 kL = 500 L

0.25 kL = 250 L

0.75 kL = 750 L

0.9 kL = 900 L

b) 1000 L = 1 kL

5000 L = 5 kL

10 000 L = 10 kL

1500 L = 1.5 kL

1200 L = 1.2 kL

800 L = 0.8 kL

500 L = 0.5 kL

250 L = 0.25 kL

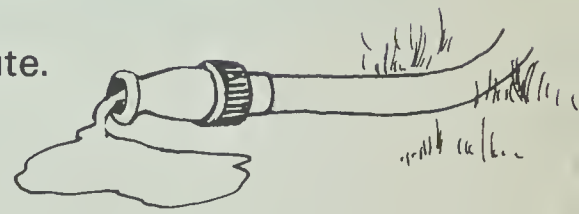
750 L = 0.75 kL

2. The capacity of the gas tank in Mohammed's car is 79 L.
How many kilolitres of gas does it hold?

79 L = 0.079 kL

The car holds 0.079 kL of gas.

3. A garden hose left running wastes 50 L of water each minute.
In how many minutes would it waste 1 kL of water?



1 kL = 1000 L

1000 ÷ 50 = 20

It would waste 1 kL of water in 20 min.

4. A humidifier uses 25 L of water every day.
How many days does it take to use 1 kL of water?

1 kL = 1000 L

1000 ÷ 25 = 40

It takes 40 d to use 1 kL of water.

NAME DATE

1. Complete.

a) 1 g = 1000 mg

5 g = 5000 mg

12 g = 12 000 mg

0.5 g = 500 mg

0.1 g = 100 mg

0.25 g = 250 mg

0.75 g = 750 mg

3000 mg = 3 g

1500 mg = 1.5 g

1200 mg = 1.2 g

750 mg = 0.75 g

225 mg = 0.225 g

b) 1 kg = 1000 g

7 kg = 7000 g

10 kg = 10 000 g

5 kg = 5000 g

0.5 kg = 500 g

0.1 kg = 100 g

2000 g = 2 kg

1500 g = 1.5 kg

100 g = 0.1 kg

800 g = 0.8 kg

500 g = 0.5 kg

150 g = 0.15 kg

c) 1 t = 1000 kg

6 t = 6000 kg

0.6 t = 600 kg

1.5 t = 1500 kg

0.2 t = 200 kg

1.1 t = 1100 kg

7000 kg = 7 t

900 kg = 0.9 t

750 kg = 0.75 t

225 kg = 0.225 t

100 kg = 0.1 t

500 kg = 0.5 t

2. A 450 g tin of ground coffee costs $4.50.

a) What is the cost of coffee per gram?

$$450\overline{)4.50}\quad 0.01$$

The cost is $0.01 per gram.

b) 5 g of ground coffee will brew 1 cup of coffee. What is the cost of a cup of coffee?

$5 \times 0.01 = 0.05$

A cup of coffee cost $0.05.

3. The mass of a dime is about 2 g.
Find the mass in kilograms of $100 in dimes.

$100 = 1000 dimes

$1000 \times 2 = 2000$

2000 g = 0.2 kg

The mass of $100 in dimes is about 0.2 kg.

Additional practice in mass, mg, g, to follow pages 56 to 61

NAME DATE

1. Solve.

a) $k + 7 = 15$

$k =$ 8

Think
8 + 7 = 15

b) $p + 3 = 18$

$p =$ 15

c) $a + 15 = 23$

$a =$ 8

d) $b - 4 = 19$

$b =$ 23

e) $c - 9 = 8$

$c =$ 17

f) $d + 3 = 27$

$d =$ 24

g) $e + 8 = 14$

$e =$ 6

h) $f - 12 = 24$

$f =$ 36

i) $m \div 8 = 7$

$m =$ 56

j) $n \times 6 = 54$

$n =$ 9

k) $r \div 8 = 12$

$r =$ 96

l) $s \times 9 = 63$

$s =$ 7

m) $t \div 7 = 6$

$t =$ 42

n) $v \times 10 = 120$

$v =$ 12

2. Solve.

a) $(2 \times a) + 3 = 7$

$a =$ 2

Think
A number add 3 is 7.
4 + 3 = 7
So 2 × a = 4
2 × 2 = 4

b) $(4 \times c) - 8 = 8$

$c =$ 4

c) $(d \div 5) - 6 = 9$

$d =$ 75

d) $(6 \times p) - 12 = 12$

$p =$ 4

e) $(q \div 7) - 3 = 46$

$q =$ 343

3. Write the equation and solve it.

a) **a number add 6 is 15**
n + 6 = 15
n = 9

b) 6 times a number, subtract 5, is 25
(6 × n) − 5 = 25
n = 5

c) a number subtract 6 is 18
n − 6 = 18
n = 24

d) a number divided by 3 is 9
n ÷ 3 = 9
n = 27

e) 3 times a number, subtract 8, is 10
(3 × n) − 8 = 10
n = 6

f) a number divided by 4 is 9
n ÷ 4 = 9
n = 36

NAME DATE

1. **Solve, if $p = \{1,2,3,4,5,6,7\}$. Write the solution set.**

$3 \times p < 12$

$p = 1,2,3$

The solution set is $\{1,2,3\}$.

Think
$3 \times 4 = 12$ $3 \times 2 < 12$
$3 \times 3 < 12$ $3 \times 1 < 12$

2. Solve, if $k = \{2,4,6,8,10,12\}$. Write the solution set.

$4 \times k > 12$

$k = 4,6,8,10,12$

The solution set is $\{4,6,8,10,12\}$.

3. Solve, if $a = \{1,3,5,7,9,11,13\}$. Write the solution set.

$7 \times a > 14$

$a = 3,5,7,9,11,13$

The solution set is $\{3,5,7,9,11,13\}$.

4. Solve, if $n = \{2,3,5,7,11,13\}$. Write the solution set.

$3 \times n < 42$

$n = 2,3,5,7,11,13$

The solution set is $\{2,3,5,7,11,13\}$.

5. Solve, if $m = \{0,5,10,15,20,25\}$. Write the solution set.

$5 \times m < 100$

$m = 0,5,10,15$

The solution set is $\{0,5,10,15\}$.

6. Solve, if $q = \{0,3,6,9,12,15,18\}$. Write the solution set.

$4 \times q < 40$

$q = 0,3,6,9$

The solution set is $\{0,3,6,9\}$.

Additional practice in inequations to follow pages 64 to 65

NAME DATE

Complete the charts.

1.

p	$2 \times p$	$(2 \times p) - 3$	$(5 \times p) + 6$	$p \times p$	$p + p$	$p - p$
6	12	9	36	36	12	0

2.

a	$(2 \times a) - 1$	$(2 \times a) + 1$	$a \times a$	$a + a$	$a - a$	$a \div a$
8	15	17	64	16	0	1

3.

y	$(6 \times y) - 6$	$(6 \times y) + 6$	$y \times y$	$(y \times 8) - 1$	$y - 3$	$y \div y$
3	12	24	9	23	0	1

4.

z	$10 \times z$	$(1000 \times z) - z$	$z \times z$	$(10 \times z) - 10$	$(2 \times z) + 5$	$(2 \times z) - 5$
10	100	9990	100	90	25	15

5.

a	b	$a + b$	$a - b$	$(2 \times a) + (2 \times b)$	$a \times a$	$b \times b$	$(a \times a) + (b \times b)$
5	4	9	1	18	25	16	41

6.

z	y	$(3 \times z) + y$	$(5 \times z) - y$	$z \times y$	$z \times z$	$y \times y$	$(z \times z) - (y \times y)$
5	0	15	25	0	25	0	25

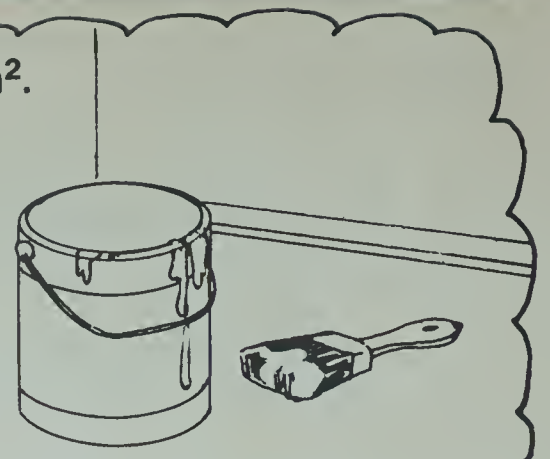
NAME DATE

1. **24 L of paint was needed to cover an area of 288 m².**
What area will 1 L cover?

$288 \div 24 = 12$

1 L of paint will cover 12 m².

$$24\overline{)288}\quad 12,\ 24,\ 48,\ 48,\ 0$$



2. A plumber had a 970 cm coil of copper tubing.
He used lengths of 171.4 cm, 125.6 cm, 283.8 cm, and 74.5 cm.
How much remained in the coil?

171.4 + 125.6 + 283.8 + 74.5 = 655.3

970.0 − 655.3 = 314.7

314.7 cm remained in the coil.

3. a) How many pieces of copper wire 8 cm long can be cut from a piece 479.8 cm long?

$8\overline{)479.8}$ → 59., 40, 79, 72, 78

59 pieces can be cut.

b) What length is left?

59 × 8 = 472

479.8 − 472.0 = 7.8

7.8 cm remain.

4. a) 21 m² of carpet cost $357. Find the cost of 1 m².

$21\overline{)357}$ → 17, 21, 141, 141, 0

The cost of 1 m² is $17.00.

b) The underpadding cost $3.50/m². What was the cost of 21 m² of underpadding?

$3.50 × 21 = $73.50

The cost of underpadding is $73.50.

c) The installation was $75.
Find the total cost of the carpet and underpadding, including installation.

$357.00 + 73.50 + 75.00 = $505.50

The total cost is $505.50.

Additional practice in word problems to follow pages 69 to 73

NAME DATE

1. Divide. Check by estimating.

a) 18)486

27
36
126
126
0

Think this way:
How many 18's in 48? - About 2

How many 18's in 126? - 7

Check: 486 ÷ 16 is about 500 ÷ 20 **or** 25.
The quotient 27 is reasonable.

b) 22)902

41
88
22
22
0

Check: 902 ÷ 22 is about
900 ÷ 20 or 45.
The quotient 41 is reasonable.

c) 23)667

29
46
207
207
0

Check: 667 ÷ 23 is about
700 ÷ 20 or 35.
The quotient 29 is reasonable.

d) 19)855

45
76
95
95
0

Check: 855 ÷ 19 is about
900 ÷ 20 or 45.
The quotient 45 is reasonable.

e) 13)728

56
65
78
78
0

Check: 728 ÷ 13 is about
700 ÷ 10 or 70.
The quotient 56 is reasonable.

f) 15)870

58
75
120
120
0

Check: 870 ÷ 15 is about
900 ÷ 20 or 45.
The quotient 58 is reasonable.

g) 27)621

23
54
81
81
0

Check: 621 ÷ 27 is about
600 ÷ 30 or 20.
The quotient 23 is reasonable

h) 18)342

19
18
162
162
0

Check: 342 ÷ 18 is about
300 ÷ 20 or 15.
The quotient 19 is reasonable.

Additional practice in long division to follow page 92

NAME DATE

Divide. Check by estimating.

a) 25)3825

153
25
132
125
75
75
0

Think this way.
How many 25's in 38? - About 1
How many 25's in 132? - About 5
How many 25's in 75? - 3

Check: 3825 ÷ 25 is about 4000 ÷ 25 or 160.
The quotient 153 is reasonable.

b) 18)4158

231
36
55
54
18
18
0

Check: 4158 ÷ 18 is about 4000 ÷ 20 or 200.
The quotient 231 is reasonable.

c) 13)4082

314
39
18
13
52
52
0

Check: 4082 ÷ 13 is about 4000 ÷ 10 or 400.
The quotient 314 is reasonable.

d) 22)9130

415
88
33
22
110
110
0

Check: 9130 ÷ 22 is about 9000 ÷ 20 or 450.
The quotient 415 is reasonable.

e) 17)2856

168
17
115
102
136
136
0

Check: 2856 ÷ 17 is about 3000 ÷ 20 or 150.
The quotient 168 is reasonable.

f) 16)5952

372
48
115
112
32
32
0

Check: 5952 ÷ 16 is about 6000 ÷ 20 or 300.
The quotient 372 is reasonable.

g) 19)4712

248
38
91
76
152
152
0

Check: 4712 ÷ 19 is about 5000 ÷ 20 or 250.
The quotient 248 is redsonable.

h) 24)4536

189
24
213
192
216
216
0

Check: 4536 ÷ 24 is about 5000 ÷ 25 or 200.
The quotient 189 is reasonable

Additional practice in long division to follow page 93

NAME DATE

Divide. Check by estimating.

a) 12)27.6

2.3
24
36
36
0

Think this way.
How many 12's in 27? - About 2
Place the decimal point in the quotient above the decimal point in 27.6.
How many 12's in 36? - 3

Check: 27.6 ÷ 12 is about 30 ÷ 10 or 3.
The quotient 2.3 is reasonable.

b) 22)90.2

4.1
88
22
22
0

Check: 90.2 ÷ 22 is about 90 ÷ 20 or 4.5.
The quotient 4.1 is reasonable.

c) 21)73.5

3.5
63
105
105
0

Check: 73.5 ÷ 21 is about 70 ÷ 20 or 3.5.
The quotient 3.5 is reasonable.

d) 32)51.2

1.6
32
192
192
0

Check: 51.2 ÷ 32 is about 50 ÷ 30 or 1.6.
The quotient 1.6 is reasonable.

e) 26)67.6

2.6
52
156
156
0

Check: 67.6 ÷ 26 is about 70 ÷ 30 or 2.3.
The quotient 2.6 is reasonable.

f) 46)64.4

1.4
46
184
184
0

Check: 64.4 ÷ 46 is about 60 ÷ 50 or 1.2.
The quotient 1.4 is reasonable.

g) 27)86.4

3.2
81
54
54
0

Check: 86.4 ÷ 27 is about 90 ÷ 30 or 3.
The quotient 3.2 is reasonable.

h) 19)81.7

4.3
76
57
57
0

Check: 81.7 ÷ 19 is about 80 ÷ 20 or 4.
The quotient 4.3 is reasonable.

i) 16)38.4

2.4
32
64
64
0

Check: 38.4 ÷ 16 is about 40 ÷ 20 or 2.
The quotient 2.4 is reasonable.

j) 24)79.2

3.3
72
72
72
0

Check: 79.2 ÷ 24 is about 80 ÷ 20 or 4.
The quotient 3.3 is reasonable.

k) 31)83.7

2.7
62
217
217
0

Check: 83.7 ÷ 31 is about 80 ÷ 30 or 2.6.
The quotient 2.7 is reasonable.

Additional practice in long division to follow page 94

NAME DATE

Divide. Check by estimating.

a) 16)37.44

2.34
32
54
48
64
64
0

Think this way.
How many 16's in 37? - About 2
Place the decimal point in the quotient above the decimal point in 37.44.
How many 16's in 54? - About 3
How many 16's in 64? - 4

Check: 37.44 ÷ 16 is about 40 ÷ 20 or 2.
The quotient 2.34 is reasonable.

b) 23)289.8

12.6
23
59
46
138
138
0

Check: 289.8 ÷ 23 is about 300 ÷ 20 or 15.
The quotient 12.6 is reasonable.

c) 32)483.2

15.1
32
163
160
32
32
0

Check: 483.2 ÷ 32 is about 500 ÷ 30 or 16.6.
The quotient 15.1 is reasonable.

d) 41)62.73

1.53
41
217
205
123
123
0

Check: 62.73 ÷ 41 is about 60 ÷ 40 or 1.5.
The quotient 1.53 is reasonable.

e) 12)267.6

22.3
24
27
24
36
36
0

Check: 267.6 ÷ 12 is about 300 ÷ 10 or 30.
The quotient 22.3 is reasonable.

f) 17)53.55

3.15
51
25
17
85
85
0

Check: 53.55 ÷ 17 is about 50 ÷ 20 or 2.5.
The quotient 3.15 is reasonable.

g) 29)90.48

3.12
87
34
29
58
58
0

Check: 90.48 ÷ 29 is about 90 ÷ 30 or 3.
The quotient 3.12 is reasonable.

h) 18)761.4

42.3
72
41
36
54
54
0

Check: 761.4 ÷ 18 is about 800 ÷ 20 or 40.
The quotient 42.3 is reasonable.

Additional practice in long division to follow page 95

NAME DATE

1. Round each number to the nearest tenth.

a) **17.81** 17.8 b) 39.42 39.4 c) 1876.11 1876.1

d) 2.59 2.6 e) 54.81 54.8 f) 37.29 37.3

g) 56.39 56.4 h) 89.07 89.1 i) 2.12 2.1

j) 15.39 15.4 k) 365.09 365.1 l) 84.79 84.8

2. Round each number to the nearest tenth.

a) **126.584** 126.6 b) 37.019 37.0 c) 58.777 58.8

d) 1.191 1.2 e) 2.293 2.3 f) 42.368 42.4

g) 19.073 19.1 h) 0.063 0.1 i) 2.119 2.1

j) 75.364 75.4 k) 1174.296 1174.3 l) 0.084 0.1

3. Multiply. Round each product to the nearest tenth.

a) **7.9** × **6.5** = 395 + 474 = 51.35 or 51.4 to the nearest tenth

b) 83.7 × 5.9 = 7533 + 4185 = 493.83 or 493.8 to the nearest tenth

c) 74.8 × 1.6 = 4488 + 748 = 119.68 or 119.7 to the nearest tenth

d) 17.5 × 2.6 = 1050 + 350 = 45.50 or 45.5 to the nearest tenth

e) 32.5 × 4.6 = 1950 + 1300 = 149.50 or 149.5 to the nearest tenth

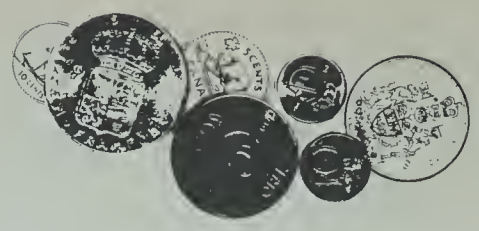
f) 83.7 × 1.9 = 7533 + 837 = 159.03 or 159.0 to the nearest tenth

g) 25.4 × 3.6 = 1524 + 762 = 91.44 or 91.4 to the nearest tenth

h) 13.7 × 1.4 = 548 + 137 = 19.18 or 19.2 to the nearest tenth

NAME DATE

Round each amount to the nearest cent.



Country	Currency	Equivalent Value in Canadian Currency on Feb. 19	Value Rounded to Nearest Cent
Australia	dollar	$1.269	$1.27
Austria	schilling	0.076	0.08
Bahamas	dollar	1.117	1.12
Barbados	dollar	0.561	0.56
Belgium	franc	0.034	0.03
Bermuda	dollar	1.117	1.12
Brazil	cruzeiro	0.069	0.07
Bulgaria	lev	1.207	1.21
Chile	peso	0.039	0.04
Czechoslovakia	crown	0.206	0.21
Denmark	krone	0.241	0.24
East Germany	mark	0.547	0.55
Egypt	pound	2.883	2.88
Finland	markka	0.251	0.25
France	franc	0.231	0.23
Greece	drachma	0.032	0.03
Hong Kong	dollar	0.242	0.24
India	rupee	0.139	0.14
Mexico	peso	0.049	0.05
Netherlands	guilder	0.503	0.50
Spain	peseta	0.013	0.01
Switzerland	franc	0.596	0.60

Additional practice in rounding numbers to follow pages 96 to 97

NAME DATE

Divide. Express each quotient to the nearest tenth.

a) 21)54.00

2.57
42
120
105
150
147
3

Think this way.
How many 21's in 54? - About 2
Write 54 as 54.00 and continue.
How many 21's in 120? - About 5

How many 21's in 150? - About 7

54 ÷ 21 = 2.6 to the nearest tenth

b) 32)75.00

2.34
64
110
96
140
128
12

75 ÷ 32 = 2.3, to the nearest tenth

c) 15)121.00

8.06
120
100
90
10

121 ÷ 15 = 8.1, to the nearest tenth

d) 22)345.00

15.68
22
125
110
150
132
180
176
4

345 ÷ 22 = 15.7, to the nearest tenth

e) 16)711.00

44.43
64
71
64
70
64
60
48
12

711 ÷ 16 = 44.4 to the nearest tenth

f) 34)435.00

12.79
34
95
68
270
238
320
306
14

435 ÷ 34 = 12.8, to the nearest tenth

g) 14)370.00

26.42
28
90
84
60
56
40
28
12

370 ÷ 14 = 26.4, to the nearest tenth

h) 82)723.00

8.81
656
670
656
140
82
58

723 ÷ 82 = 8.8, to the nearest tenth

NAME DATE

Divide. Express each quotient to the nearest tenth.

a) 14)142.00

```
  10.14
14)142.00
  14
  020
   14
    60
    56
     4
```

Think this way.
How many 14's in 14? - 1

How many 14's in 2? - Less than 1
Write 0 above the 2 in 142.
How many 14's in 20? - About 1
How many 14's in 60? - About 4

142 ÷ 14 = 10.1 to the nearest tenth

b) 30)347.00

```
  11.56
30)347.00
  30
  47
  30
  170
  150
   200
   180
    20
```

347 ÷ 30 = 11.6, to the nearest tenth

c) 43)561.00

```
  13.04
43)561.00
  43
  131
  129
    200
    172
     28
```

561 ÷ 43 = 13.0, to the nearest tenth

d) 24)485.00

```
  20.20
24)485.00
  48
  050
   48
    20
```

485 ÷ 24 = 20.2, to the nearest tenth

e) 33)667.00

```
  20.21
33)667.00
  66
  070
   66
   ' 40
    33
     7
```

667 ÷ 33 = 20.2, to the nearest tenth

f) 24)495.00

```
  20.62
24)495.00
  48
  150
  144
    60
    48
    12
```

495 ÷ 24 = 20.6, to the nearest tenth

g) 56)572.00

```
  10.21
56)572.00
  56
  120
  112
    80
    56
    24
```

572 ÷ 56 = 10.2, to the nearest tenth

h) 35)709.00

```
  20.25
35)709.00
  70
  090
   70
   200
   175
    25
```

709 ÷ 35 = 20.3, to the nearest tenth

NAME DATE

Find the unit cost. Give the answer to the nearest cent.

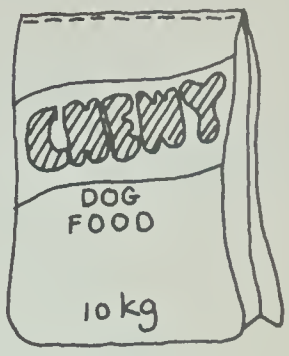
a) **Oranges**
5 for $1.29

$$\begin{array}{r} 0.258 \\ 5\overline{)1.290} \\ 10 \\ \hline 29 \\ 25 \\ \hline 40 \\ 40 \\ \hline 0 \end{array}$$

The cost of 1 orange is 26¢ to the nearest cent.

b) Dry dog food
10 kg for $4.79

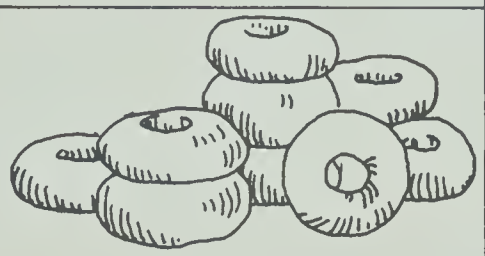
$$\begin{array}{r} 0.479 \\ 10\overline{)4.790} \\ 40 \\ \hline 79 \\ 70 \\ \hline 90 \\ 90 \\ \hline 0 \end{array}$$



The cost of 1 kg of dog food is 48¢ to the nearest cent.

c) Donuts
9 for $0.59

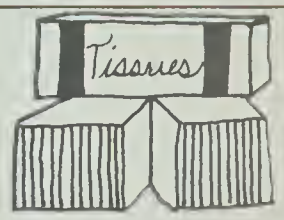
$$\begin{array}{r} 0.065 \\ 9\overline{)0.590} \\ 054 \\ \hline 50 \\ 45 \\ \hline 5 \end{array}$$



The cost of 1 donut is 6¢ to the nearest cent.

d) Facial tissue
3 boxes for $1.00

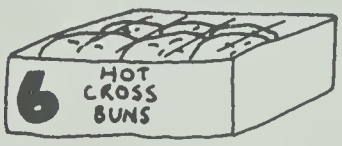
$$\begin{array}{r} 0.333 \\ 3\overline{)1.000} \\ 9 \\ \hline 10 \\ 9 \\ \hline 10 \\ 9 \\ \hline 1 \end{array}$$



The cost of 1 box is 33¢ to the nearest cent.

e) Hot cross buns
6 for $0.89

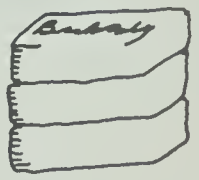
$$\begin{array}{r} 0.148 \\ 6\overline{)0.890} \\ 6 \\ \hline 29 \\ 24 \\ \hline 50 \\ 48 \\ \hline 2 \end{array}$$



The cost of 1 hot cross bun is 15¢ to the nearest cent.

f) Soap
3 bars for $0.59

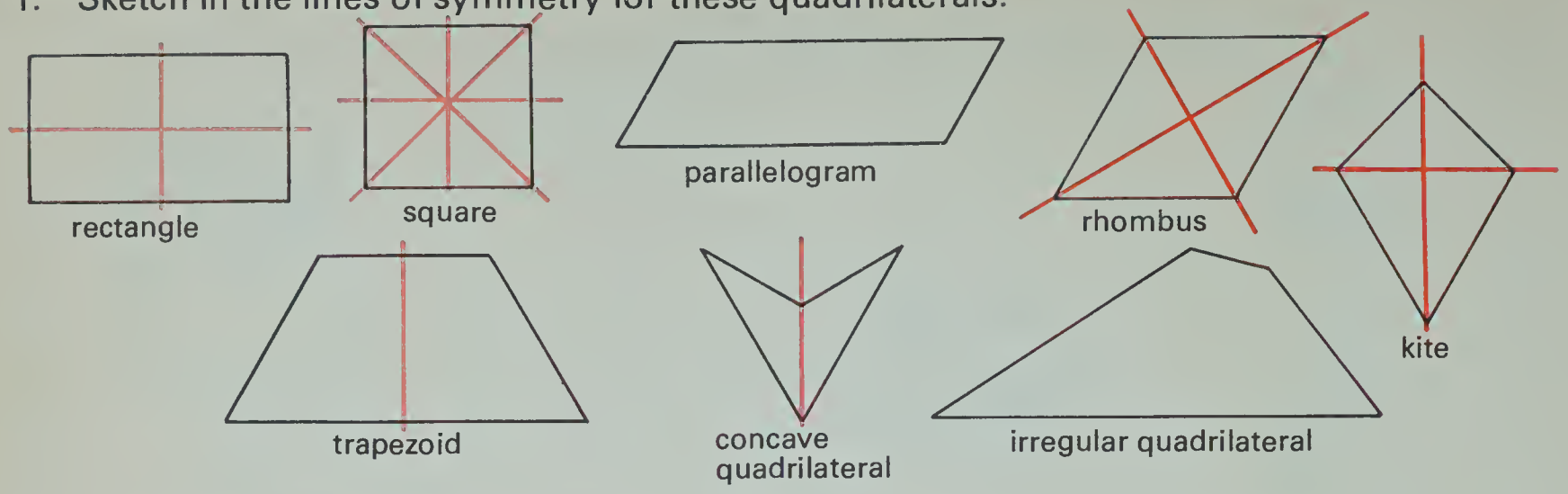
$$\begin{array}{r} 0.196 \\ 3\overline{)0.590} \\ 3 \\ \hline 29 \\ 27 \\ \hline 20 \\ 18 \\ \hline 2 \end{array}$$



The cost of 1 bar of soap is 20¢ to the nearest cent.

NAME DATE

1. Sketch in the lines of symmetry for these quadrilaterals.



2. a) Draw 3 different quadrilaterals which each have exactly 1 line of symmetry.

Answers will vary.

b) Draw 2 different quadrilaterals which each have 0 lines of symmetry.

3. c) Draw a quadrilateral which has exactly 4 lines of symmetry.

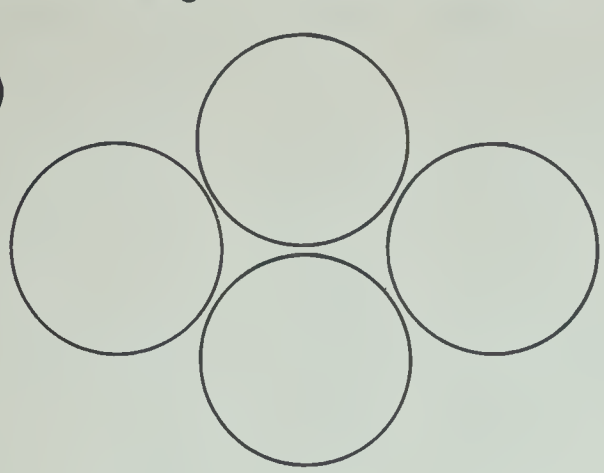
Answers will vary.

d) Draw 2 different quadrilaterals which each have exactly 2 lines of symmetry.

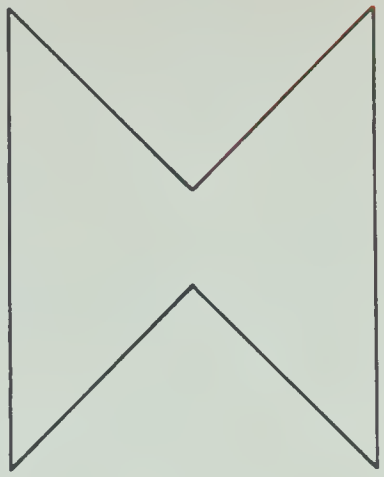
Additional practice in line symmetry to follow pages 109 to 111

1. Use tracing paper to test each of these figures for rotational symmetry.
Circle the figures that have rotational symmetry. (All figures have rotational symmetry.)

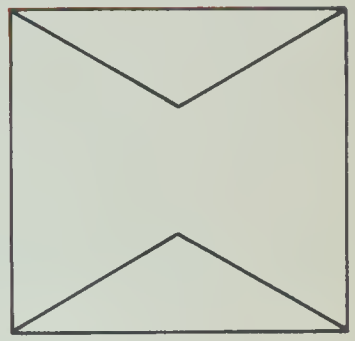
a)



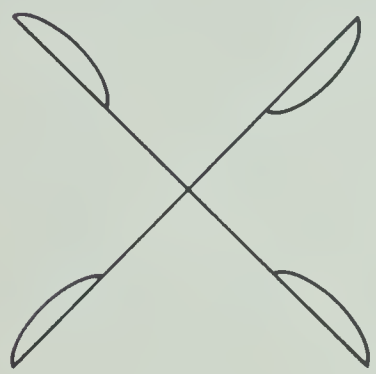
b)



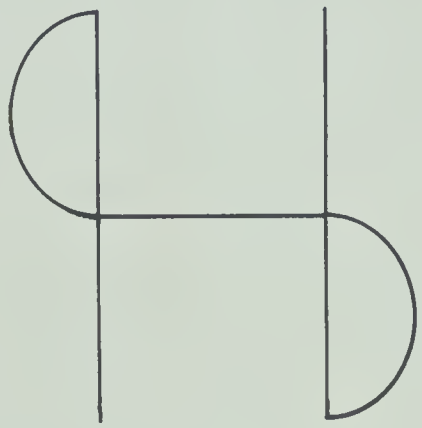
c)



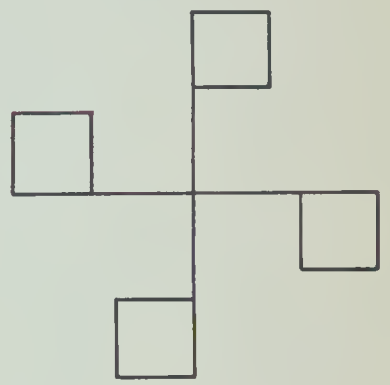
d)



e)



f)

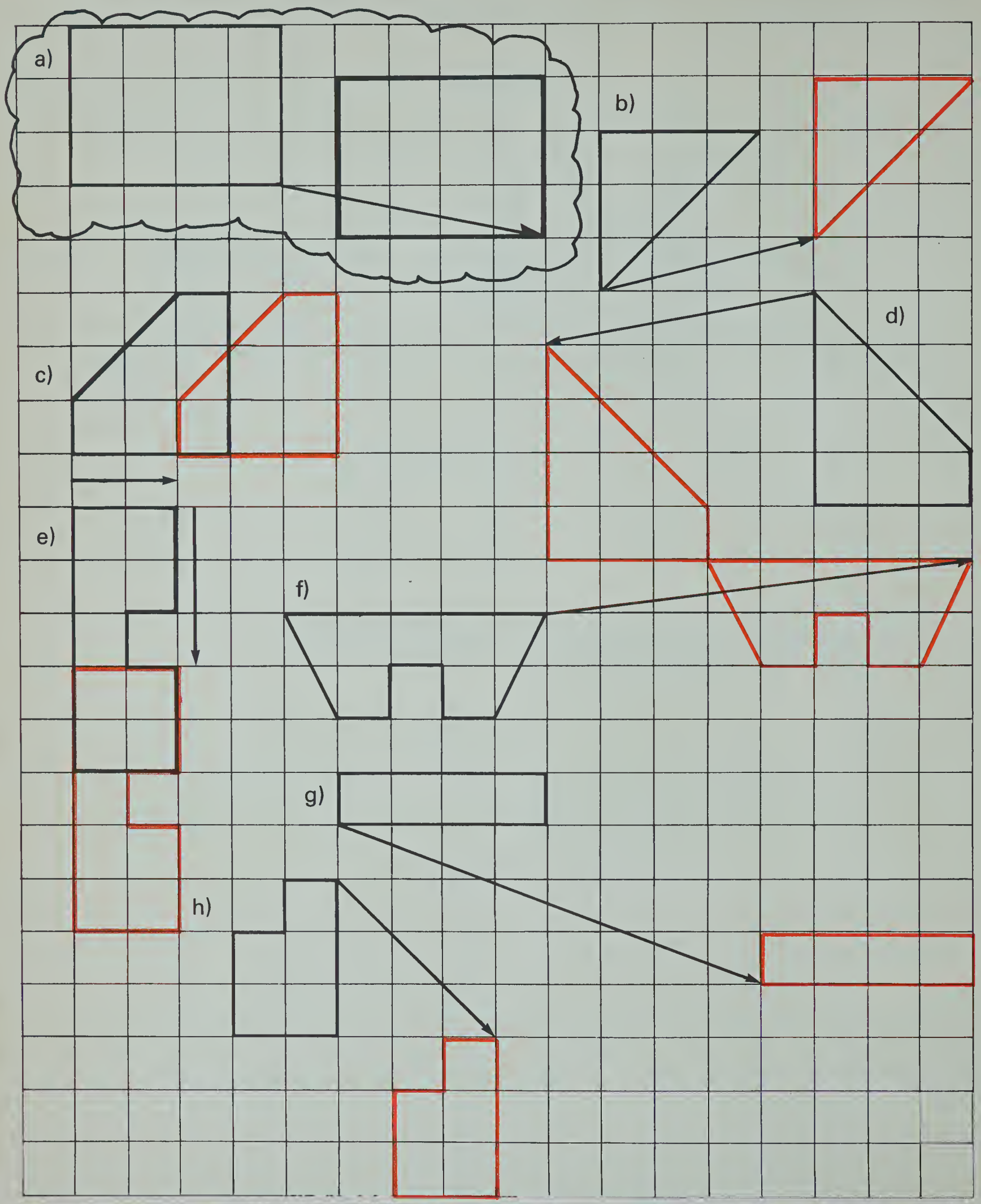


2. Use this space to draw a figure that has rotational symmetry.
Be sure to check it with tracing paper.

Answers will vary.

NAME DATE

Draw the image of each figure for the slide arrow given.



Draw the "flip" image of each figure about the suggested flip line.

a)

b)

c)

d)

e)

f)

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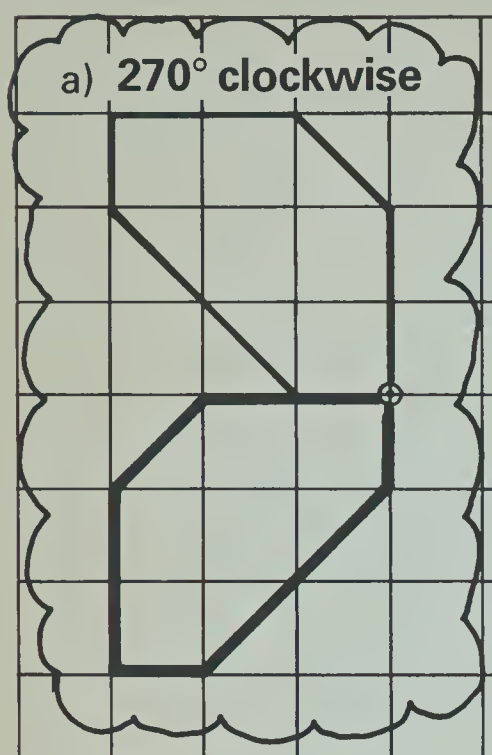
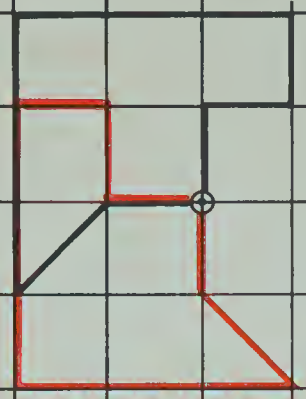
Draw the turn image for each figure. You may use tracing paper to help you.

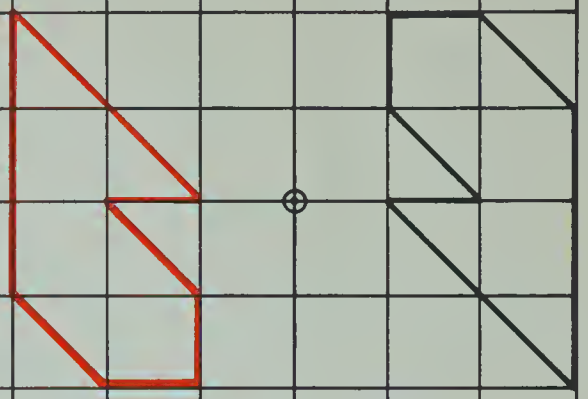
a) **270° clockwise**



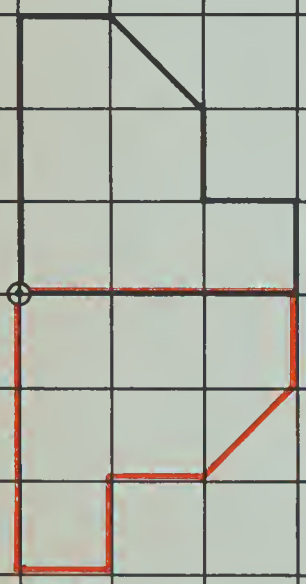
b) 90° counter-clockwise



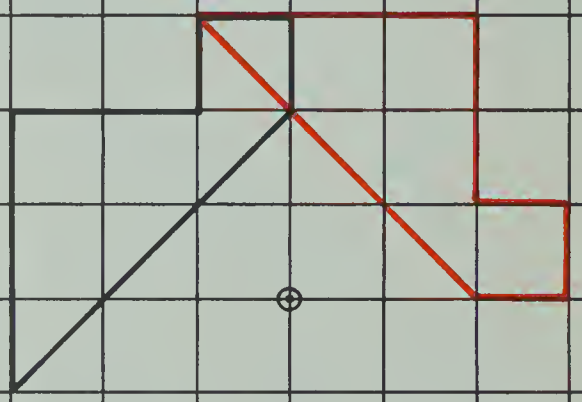
c) 180° counter-clockwise



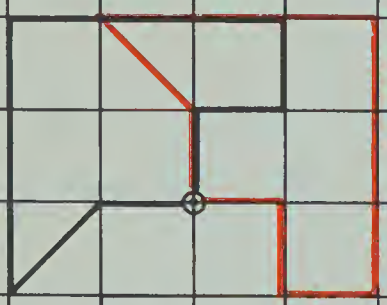
d) 90° clockwise



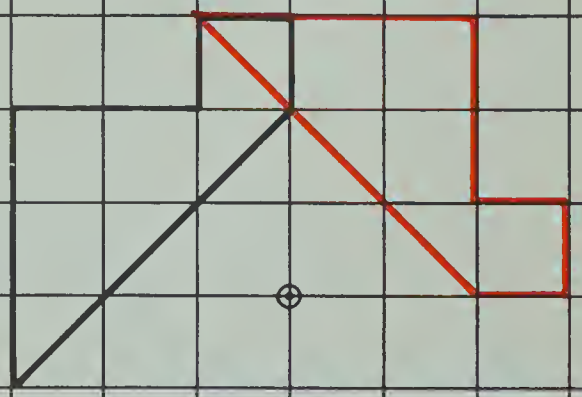
e) 90° clockwise



f) 270° counter-clockwise



g) 270° counter-clockwise

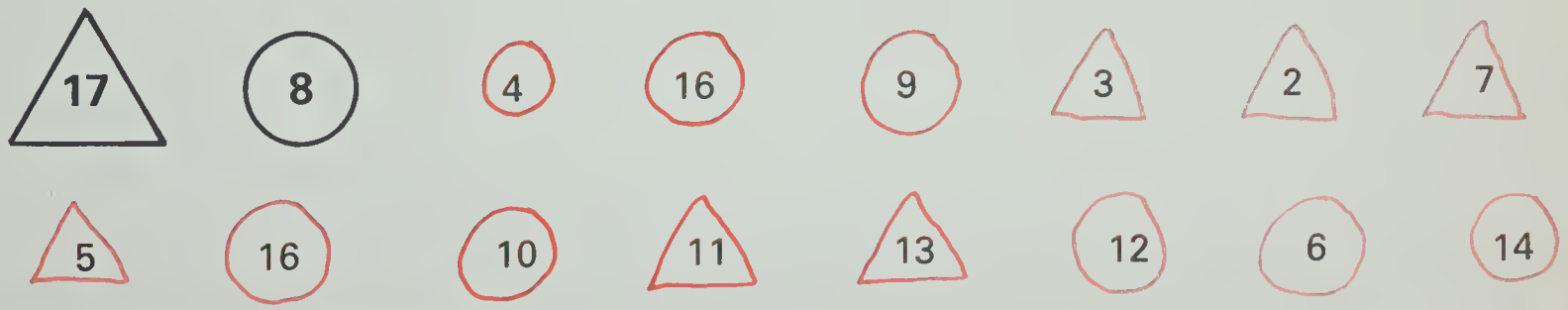


Additional practice in motion geometry, turns, to follow pages 127 to 128

1. Complete the chart.

Number	Factor form	Factors	Number of factors
2	1 × 2	1, 2	2
5	1 × 5	1, 5	2
10	1 × 10 2 × 5	1, 2, 5, 10	4
12	1 × 12 2 × 6 3 × 4	1, 2, 3, 4, 6, 12	6
15	1 × 15 3 × 5	1, 3, 5, 15	4
17	1 × 17	1, 17	2
20	1 × 20 2 × 10 4 × 5	1, 2, 4, 5, 10, 20	6
24	1 × 24 2 × 12 3 × 8 4 × 6	1, 2, 3, 4, 6, 8, 12, 24	8

2. a) Draw a triangle around the prime numbers.
   b) Draw a circle around the composite numbers.



NAME DATE

1. Find the composite number c for each tree diagram.

a) $c = 15$ (5, 3)

b) $c = 35$ (7, 5)

c) $c = 33$ (11, 3)

d) $c = 42$ (2, 3, 7)

e) $c = 63$ (3, 3, 7)

2. Complete the tree diagrams to find the prime factorization for each composite number.

a) 12 → 6, 2 → 3, 2, 2

b) 18 → 9, 2 → 3, 3, 2

c) 24 → 6, 4 → 3, 2, 2, 2

d) 30 → 6, 5 → 2, 3, 5

3. Draw a tree diagram to find the prime factorization of each composite number.

a) 100 → 10, 10 → 2, 5, 2, 5

b) 36 → 12, 3 → 6, 2, 3 → 3, 2, 2, 3

c) 54 → 18, 3 → 9, 2, 3 → 3, 3, 2, 3

d) 48 → 12, 4 → 6, 2, 2, 2 → 3, 2, 2, 2, 2

e) 200 → 20, 10 → 4, 5, 2, 5 → 2, 2, 5, 2, 5

f) 40 → 10, 4 → 5, 2, 2, 2

g) 120 → 20, 6 → 10, 2, 3, 2 → 5, 2, 2, 3, 2

h) 24 → 6, 4 → 3, 2, 2, 2

Note: Factorizations may vary, but prime factors will be the same.

Additional practice in prime factorization to follow pages 132 to 133

NAME DATE

1. Find the set of factors of

a) **40**
$1 \times 40 = 40$
$2 \times 20 = 40$
$4 \times 10 = 40$
$5 \times 8 = 40$
The set of factors of 40 is: $\{1, 2, 4, 5, 8, 10, 20, 40\}$.

b) 20
$1 \times 20 = 20$
$2 \times 10 = 20$
$4 \times 5 = 20$
The set of factors of 20 is $\{1, 2, 4, 5, 10, 20\}$.

c) 36
$1 \times 36 = 36$
$2 \times 18 = 36$
$3 \times 12 = 36$
$4 \times 9 = 36$
$6 \times 6 = 36$
The set of factors of 36 is $\{1, 2, 3, 4, 6, 9, 12, 18, 36\}$.

d) 100
$1 \times 100 = 100$
$2 \times 50 = 100$
$4 \times 25 = 100$
$5 \times 20 = 100$
$10 \times 10 = 100$
The set of factors of 100 is $\{1, 2, 4, 5, 10, 20, 25, 50, 100\}$

e) 19
$1 \times 19 = 19$
The set of factors of 19 is $\{1, 19\}$.

f) 80
$1 \times 80 = 80$
$2 \times 40 = 80$
$4 \times 20 = 80$
$5 \times 16 = 80$
$8 \times 10 = 80$
The set of factors of 80 is $\{1, 2, 4, 5, 8, 10, 16, 20, 40, 80\}$.

g) 48
$1 \times 48 = 48$
$2 \times 24 = 48$
$3 \times 16 = 48$
$4 \times 12 = 48$
$6 \times 8 = 48$
The set of factors of 48 is $\{1, 2, 3, 4, 6, 8, 12, 16, 24, 48\}$.

h) 11
$1 \times 11 = 11$
The set of factors of 11 is $\{1, 11\}$.

i) 25
$1 \times 25 = 25$
$5 \times 5 = 25$
The set of factors of 25 is $\{1, 5, 25\}$.

2. Find the greatest common factor of

a) **15, 18**
The set of factors of 15 is $\{1, 3, 5, 15\}$
The set of factors of 18 is $\{1, 3, 6, 9, 18\}$
The GCF of 15 and 18 is 3.

b) 20, 40
The set of factors of 20 is $\{1, 2, 4, 5, 10, 20\}$.
The set of factors of 40 is $\{1, 2, 4, 5, 8, 10, 20, 40\}$.
The GCF of 20 and 40 is 20.

c) 24, 56
The set of factors of 24 is $\{1, 2, 3, 4, 6, 8, 12, 24\}$
The set of factors of 56 is $\{1, 2, 4, 7, 8, 14, 28, 56\}$
The GCF of 24 and 56 is 8.

NAME DATE

A number is divisible by:

2 if its units digit is 0, 2, 4, 6, or 8.

150 is divisible by 2.
151 is not divisible by 2.

3 if the sum of its digits is divisible by 3.

144
1 + 4 + 4 = 9
9 ÷ 3 = 3
144 is divisible by 3.

4 if its last 2 digits are divisible by 4.

876 924
24 ÷ 4 = 6
876 924 is divisible by 4.

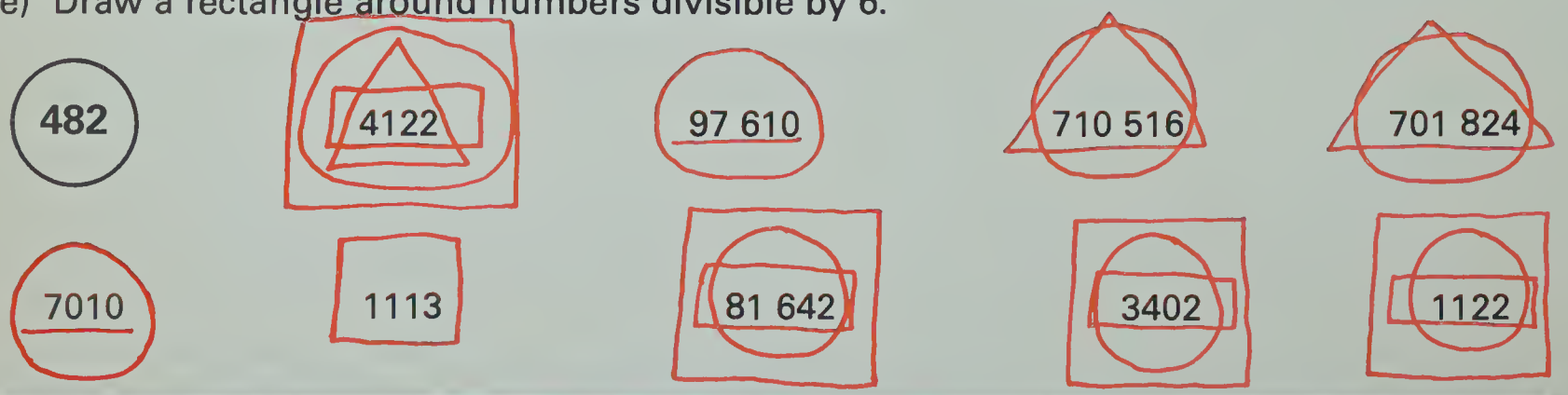
5 if the number ends in 0 or 5.

8750
8755
Both are divisible by 5.

6 if it is divisible by both 2 and 3.

132
The last digit is 2.
The number is divisible by 2.
1 + 3 + 2 = 6
6 ÷ 3 = 2
The number is divisible by 3.
The number is divisible by 6.

a) Circle the numbers divisible by 2.
b) Draw a square around numbers divisible by 3.
c) Draw a triangle around numbers divisible by 4.
d) Draw a line under numbers divisible by 5.
e) Draw a rectangle around numbers divisible by 6.



Additional practice in divisibility to follow page 135

NAME DATE

A number is divisible by:

8 if the last 3 digits are divisible by 8.

793 168
168 ÷ 8 = 21
793 168 is divisible by 8.

9 if the sum of its digits is divisible by 9.

2754
2 + 7 + 5 + 4 = 18
18 ÷ 9 = 2
2754 is divisible by 9.

10 if it ends in 0.

385 160
is divisible by 10.

12 if it is divisible by both 3 and 4.

2232
2 + 2 + 3 + 2 = 9
9 ÷ 3 = 3
The number is divisible by 3.
32 ÷ 4 = 8
The number is divisible by 4.
The number is divisible by 12.

1. Circle to show how each number is divisible.

a) **45 600**	(8)	9	(10)	(12)
b) 11 241	8	(9)	10	12
c) 71 235	8	(9)	10	12
d) 75 120	(8)	9	(10)	(12)
e) 16 524	8	(9)	10	(12)
f) 16 328	(8)	9	10	12
g) 33 312	(8)	9	10	(12)
h) 1204	8	9	10	12 none
i) 11 124	8	(9)	10	(12)

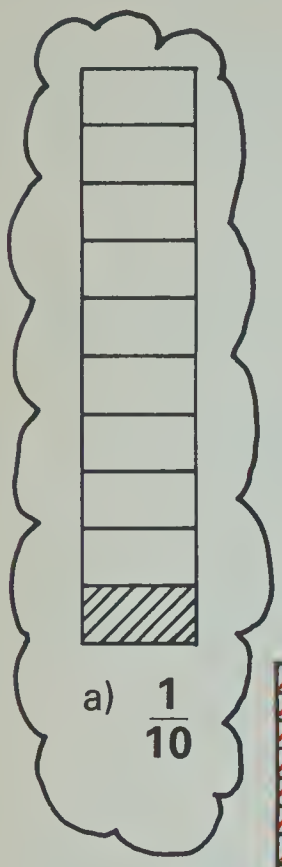
2. Write two 4-digit numbers that are

a) **divisible by 2**	2760	1952
b) divisible by 3		
c) divisible by 4	Answers will vary.	
d) divisible by 5		
e) divisible by 6		
f) divisible by 8		
g) divisible by 9		
h) divisible by 10		
i) divisible by 12		

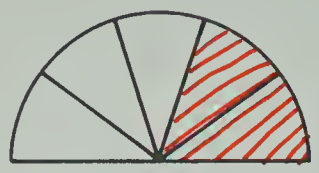
Additional practice in divisibility to follow page 135

NAME DATE

1. Shade each diagram to show the fraction.

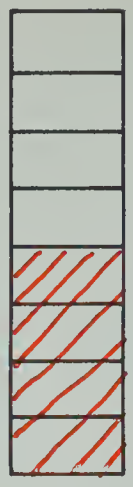


a) $\frac{1}{10}$



b) $\frac{2}{5}$

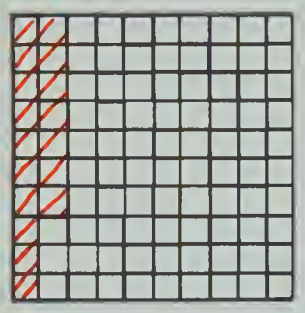
c) $\frac{1}{3}$



d) $\frac{1}{2}$

e) $\frac{1}{2}$

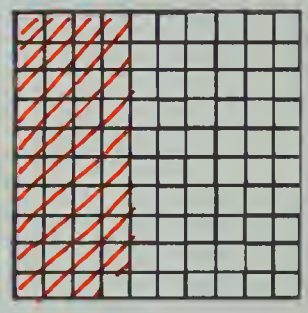
f) $\frac{4}{5}$



g) $\frac{17}{100}$

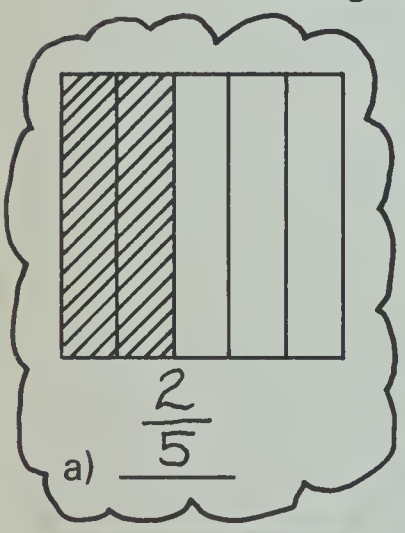
h) $\frac{3}{5}$

i) $\frac{7}{10}$

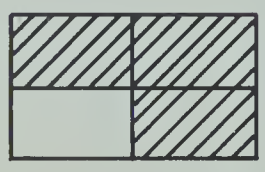


j) $\frac{39}{100}$

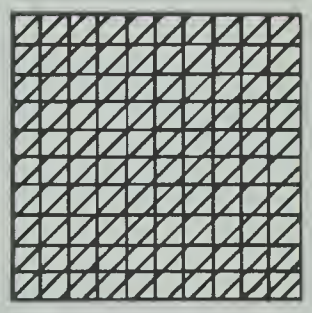
2. For each diagram, write the fraction that shows what part is shaded.



a) $\frac{2}{5}$

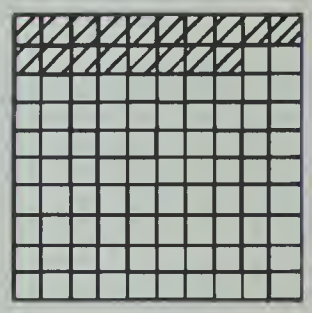


b) $\frac{3}{4}$

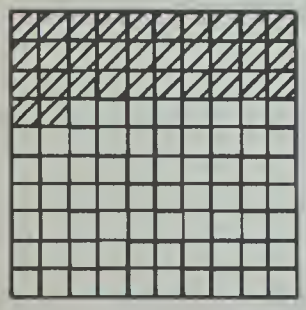


c) $\frac{100}{100}$

d) $\frac{4}{4}$



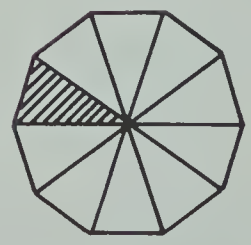
e) $\frac{18}{100}$



f) $\frac{32}{100}$

g) $\frac{5}{10}$ or $\frac{1}{2}$

h) $\frac{2}{2}$



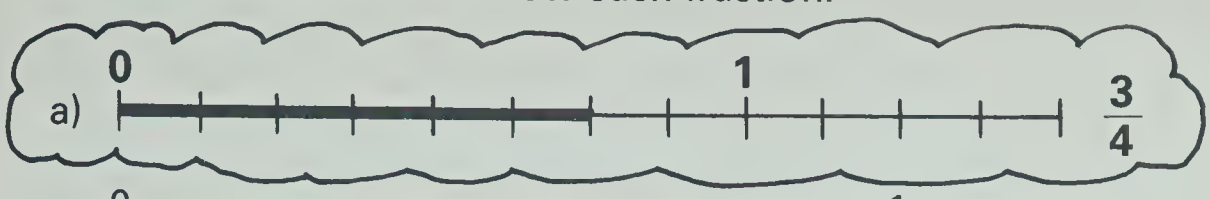
i) $\frac{1}{10}$

j) $\frac{5}{5}$

Additional practice with fractions to follow pages 137 to 138

NAME DATE

1. Use the number line to show each fraction.

a) 

$\frac{3}{4}$

b)

$\frac{7}{10}$

c)

$\frac{11}{10}$

d)

$\frac{1}{2}$

e)

$\frac{5}{4}$

f)

$\frac{2}{5}$

g)

$\frac{3}{2}$

h)

$\frac{6}{5}$

i)

$\frac{5}{2}$

j)

$\frac{1}{2}$

2. Write a fraction for each of the following. Answers will vary. Some sample answers:

a) **The numerator is less than 10, the denominator is greater than 10.** $\frac{9}{11}$

b) The denominator is a composite number, the numerator is a prime number. $\frac{5}{20}$

c) The difference between the numerator and denominator is 7. $\frac{9}{2}$

d) The product of the numerator and denominator is 10. $\frac{2}{5}$

e) The numerator is an even number, the denominator is an odd number. $\frac{2}{3}$

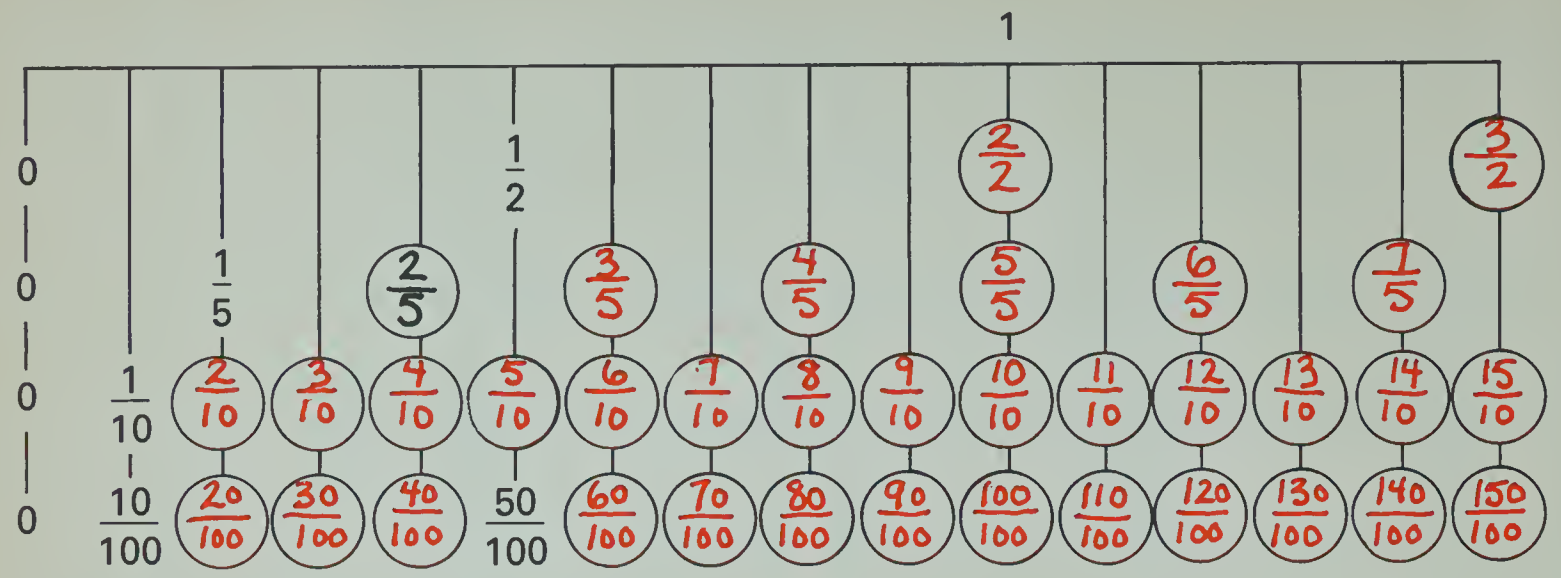
f) The denominator is 7 more than the numerator. $\frac{3}{10}$

g) The numerator is a factor of 10, the denominator is a factor of 12. $\frac{10}{12}$

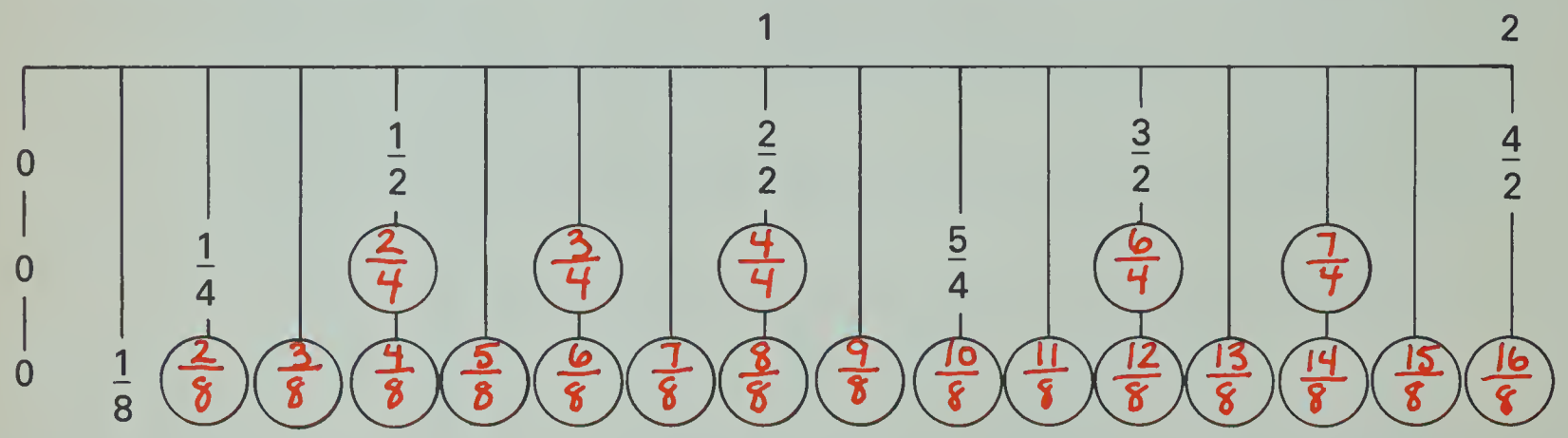
h) The sum of the numerator and denominator is 20. $\frac{4}{16}$

NAME DATE

1. Complete the equivalent fraction chart for halves, fifths, tenths, and hundredths.



2. Complete the equivalent fraction chart for halves, quarters, and eighths.



3. Write equivalent fractions. Answers may vary. Some sample answers:

a) $\frac{1}{4} = \frac{2}{8}$

b) $\frac{5}{4} = \frac{10}{8}$

c) $\frac{4}{2} = \frac{16}{8}$

d) $\frac{1}{10} = \frac{10}{100}$

e) $\frac{7}{4} = \frac{14}{8}$

f) $\frac{9}{10} = \frac{18}{20}$

4. Write 2 fractions equivalent to Answers may vary. Some sample answers:

a) $\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$

b) $\frac{2}{5}$ $\frac{4}{10}$ $\frac{8}{20}$

c) $\frac{3}{2}$ $\frac{6}{4}$ $\frac{9}{6}$

d) $\frac{4}{5}$ $\frac{8}{10}$ $\frac{16}{20}$

e) $\frac{6}{10}$ $\frac{12}{20}$ $\frac{18}{30}$

f) $\frac{4}{4}$ $\frac{8}{8}$ $\frac{12}{12}$

Additional practice with equivalent fractions to follow pages 139 to 140

NAME DATE

1. Multiply to form equivalent fractions.

a) Think × 5 = 5/10 ; 1/2 → 1/2 × 5/5

b) Think × 10 = 30/100 ; 3/10 → 3/10 × 10/10

c) Think × 2 = 2/10 ; 1/5 → 1/5 × 2/2

d) Think × 3 = 18/15 ; 6/5 → 6/5 × 3/3

e) Think × 2 = 8/10 ; 4/5 → 4/5 × 2/2

f) Think × 3 = 21/30 ; 7/10 → 7/10 × 3/3

2. Write the factor.

a) Think × 5 = 5/10 ; 1/2 → 1/2 × 5/5

b) Think × 10 = 20/40 ; 2/4 → 2/4 × 10/10

c) Think × 5 = 15/50 ; 3/10 → 3/10 × 5/5

d) Think × 10 = 10/50 ; 1/5 → 1/5 × 10/10

e) Think × 6 = 6/24 ; 1/4 → 1/4 × 6/6

f) Think × 3 = 9/15 ; 3/5 → 3/5 × 3/3

3. For each fraction, write an equivalent fraction. Answers will vary.

a) 1/10 = 2/20

b) 1/2 = 2/4

c) 1/4 = 2/8

d) 5/10 = 10/20

e) 1/5 = 2/10

f) 3/10 = 6/20

g) 3/5 = 6/10

h) 3/100 = 6/200

i) 1/10 = 2/20

j) 11/10 = 22/20

k) 17/100 = 34/200

l) 4/5 = 8/10

Additional practice in forming equivalent fractions by multiplication to follow page 141

NAME DATE

1. Divide to form equivalent fractions.

a) Think ÷ 5 = ÷ 5 — $\frac{5}{10} = \frac{1}{2}$

b) Think ÷ 3 = ÷3 — $\frac{3}{15} = \frac{1}{5}$

c) Think ÷ 5 = ÷ 5 — $\frac{5}{25} = \frac{1}{5}$

d) Think ÷ 10 = ÷ 10 — $\frac{30}{40} = \frac{3}{4}$

e) Think ÷ 5 = ÷ 5 — $\frac{25}{20} = \frac{5}{4}$

f) Think ÷ 10 = ÷ 10 — $\frac{10}{50} = \frac{1}{5}$

2. Write the factor.

a) Think ÷ 2 = ÷ 2 — $\frac{2}{4} = \frac{1}{2}$

b) Think ÷ 10 = ÷ 10 — $\frac{40}{100} = \frac{4}{10}$

c) Think ÷ 2 = ÷ 2 — $\frac{8}{10} = \frac{4}{5}$

d) Think ÷ 2 = ÷ 2 — $\frac{4}{10} = \frac{2}{5}$

e) Think ÷ 50 = ÷ 50 — $\frac{50}{100} = \frac{1}{2}$

f) Think ÷ 4 = ÷ 4 — $\frac{12}{16} = \frac{3}{4}$

3. For each fraction, write an equivalent fraction. Answers will vary.

a) $\frac{1}{2} = \frac{5}{10}$

b) $\frac{1}{5} = \frac{2}{10}$

c) $\frac{6}{10} = \frac{3}{5}$

d) $\frac{7}{10} = \frac{14}{20}$

e) $\frac{3}{10} = \frac{6}{20}$

f) $\frac{2}{2} = \frac{4}{4}$

g) $\frac{5}{10} = \frac{1}{2}$

h) $\frac{8}{10} = \frac{4}{5}$

i) $\frac{2}{5} = \frac{4}{10}$

j) $\frac{25}{100} = \frac{1}{4}$

k) $\frac{5}{25} = \frac{1}{5}$

l) $\frac{3}{5} = \frac{6}{10}$

m) $\frac{50}{100} = \frac{1}{2}$

n) $\frac{3}{4} = \frac{6}{8}$

o) $\frac{10}{15} = \frac{2}{3}$

p) $\frac{8}{20} = \frac{2}{5}$

NAME **DATE**

1. For each fraction, circle the greatest common factor of the numerator and denominator.
   Write the least-terms fraction.

a) $\frac{8}{10}$ {1, 2, 4, 8} {1, 2, 5, 10} $\frac{4}{5}$

b) $\frac{20}{25}$ {1, 2, 4, 5, 10, 20} {1, 5, 25} $\frac{4}{5}$

c) $\frac{12}{20}$ {1, 2, 3, 4, 6, 12} {1, 2, 4, 5, 10, 20} $\frac{3}{5}$

d) $\frac{6}{8}$ {1, 2, 3, 6} {1, 2, 4, 8} $\frac{3}{4}$

e) $\frac{50}{75}$ {1, 2, 5, 10, 25, 50} {1, 3, 5, 15, 25, 75} $\frac{2}{3}$

f) $\frac{10}{20}$ {1, 2, 5, 10} {1, 2, 4, 5, 10, 20} $\frac{1}{2}$

2. For each fraction, write the set of factors for the numerator and denominator.
   Circle the greatest common factor and write the least-terms fraction.

a) $\frac{8}{10}$ {1, 2, 4, 8} {1, 2, 5, 10} $\frac{4}{5}$

b) $\frac{15}{25}$ {1, 3, 5, 15} {1, 5, 25} $\frac{3}{5}$

c) $\frac{8}{16}$ {1, 2, 4, 8} {1, 2, 4, 8, 16} $\frac{1}{2}$

d) $\frac{25}{50}$ {1, 5, 25} {1, 2, 5, 25, 50} $\frac{1}{2}$

e) $\frac{10}{8}$ {1, 2, 5, 10} {1, 2, 4, 8} $\frac{5}{4}$

f) $\frac{15}{5}$ {1, 3, 5, 15} {1, 5} $\frac{3}{1}$

3. Circle the least-terms fractions.

$\frac{1}{2}$ $\frac{6}{5}$ $\frac{5}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{99}{100}$

$\frac{50}{100}$ $\frac{3}{5}$ $\frac{2}{10}$ $\frac{3}{4}$ $\frac{6}{8}$ $\frac{2}{5}$ $\frac{4}{8}$

NAME DATE

Charter Class Fares to England $314–$449 return

With Overseas Airways Charter Class Fare, you can travel any day you choose and stay any length of time, from 14 d to 60 d.

You must book at least 45 d in advance. However, because seats are limited, we strongly recommend you BOOK NOW!

Departure	London	Prestwick	Manchester
1 Jun	$389	$374	$374
2 Jun	399	384	384
3 Jun	399	384	384
4 Jun	389	374	374
5 Jun	379	364	364
6 Jun	379	364	364
7 Jun	379	364	364
8 Jun	389	374	374
9 Jun	399	384	384
10 Jun	399	384	384
11 Jun	389	374	374
12 Jun	379	364	364
13 Jun	379	364	364
14 Jun	379	364	364
15 Jun	389	374	374
16 Jun	399	384	384
17 Jun	399	384	384
18 Jun	389	374	–
19 Jun	379	364	364
20 Jun	379	364	–
21 Jun	379	364	364
22 Jun	439	424	424
23 Jun	449	434	434
24 Jun	449	434	434
25 Jun	439	424	–
26 Jun	429	414	414
27 Jun	429	414	–
28 Jun	429	414	414
29 Jun	439	424	424
30 Jun	449	434	434

1. **Mr. and Mrs. Lafleur wanted to depart on June 14. By what date must they book their flight?**

They must book their flight by April 30.

2. What would be the earliest date they could return to Canada?

June 28 would be the earliest date they could return.

3. What would be the latest date they could return?

August 13 would be the latest date they could return.

4. They decided to fly to London.
What would be the cost of return tickets for both of them?

$$\begin{array}{r} 379 \\ \times\ 2 \\ \hline 758 \end{array}$$

The cost of two return tickets would be $758.

Additional practice in word problems (time) to follow pages 148 to 150

NAME DATE

S	M	T	W	T	F	S
APRIL • AVRIL						
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

S	M	T	W	T	F	S
MAY • MAI						
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

S	M	T	W	T	F	S
JUNE • JUIN						
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

S	M	T	W	T	F	S
JULY • JUILLET						
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

S	M	T	W	T	F	S
AUGUST • AOÛT						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

S	M	T	W	T	F	S
SEPTEMBER • SEPTEMBRE						
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

S	M	T	W	T	F	S
OCTOBER • OCTOBRE						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

S	M	T	W	T	F	S
NOVEMBER • NOVEMBRE						
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

S	M	T	W	T	F	S
DECEMBER • DÉCEMBRE						
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

5. The Costa family decided to depart for Prestwick on June 29.
By what date must they book their flight?

They must book their flight by May 15.

6. They want to stay in England for 60 d.
What date will they return to Canada?

They will return on August 28.

7. Mr. and Mrs. Costa have 3 children: Juan, 15, Sylvia, 13, and Fatima, 4.
Children under 12 travel for half the advertised fare.
How much would the return tickets cost for the entire family?

4 adult fares $424 × 4 = $1696
1 half fare 424 ÷ 2 = 212
$1908

The return tickets for the entire family would cost $1908.

8. Overseas Airways asks its passengers to be at the airport 1 h 20 min prior to departure.
If their flight departs at 13:10, what time must the Costas arrive at the airport?

The Costas must arrive at 11:50.

NAME DATE

1. What time is it?

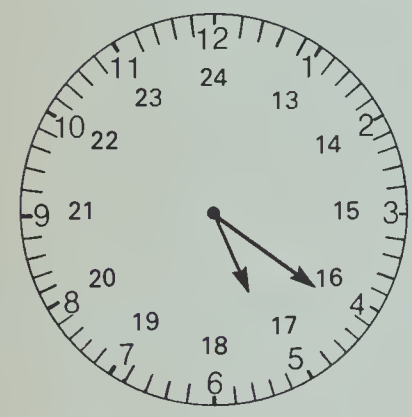
a) 4:05 or 16:05

b) 2:56 or 14:56

c) 8:13 or 20:13

d) 11:49 or 23:49

2. Draw the hands of the clock to show the time.



a) 17:21

b) 3:02

c) 23:00

d) 13:47

3. What time is it now? _____ Answers will vary.

b) What time will it be 12 h from now? _____

c) What time was it 12 h ago? _____

d) What time is school dismissed for the day? _____

e) What time does your favourite T.V. program begin? _____

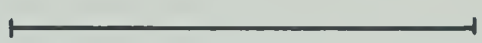
f) What time do you eat dinner? _____

g) What time do you go to bed? _____

Additional practice with time, 24 h clock, to follow pages 148 to 150

NAME DATE

1. Write the actual measurements represented by these line segments.

a) **Scale 1 cm to 2 cm (1:2)**  10 cm

b) Scale 1 cm to 5 cm (1:5) 35 cm

c) Scale 1 cm to 1 m (1:100) 4 m

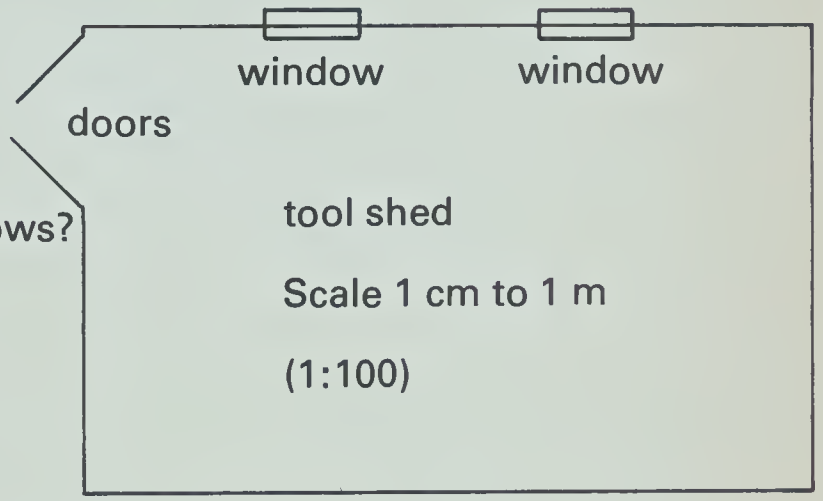
d) Scale 1 mm to 5 cm (1:50) 375 cm

e) Scale 1 mm to 5 m (1:5000) 325 m

2. a) What are the dimensions of the tool shed in metres?

Length = 8 m

Width = 5 m



b) What is the distance between the windows?

2 m

c) What is the perimeter of the shed?

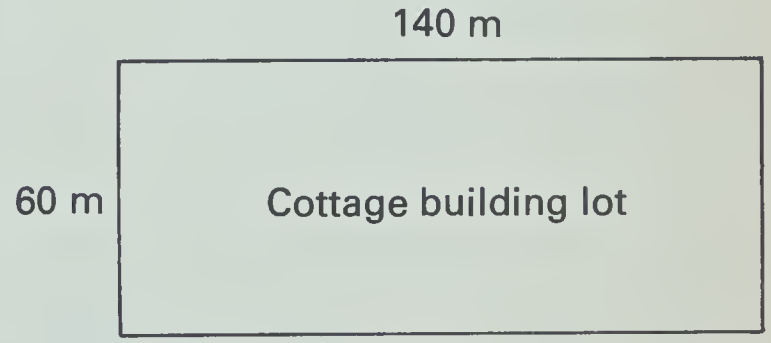
Perimeter = 26 m

d) There are 3 rows of shelves across the full width of the shed.
How many metres of shelving is that?

5×3 15
There are 15 m of shelving.

3. What is the scale of this drawing?

7 cm represents 140 m
3 cm represents 60 m
The scale is 1 cm to 20 m
(1:2000)



4. Write the scale in another form.

a) **1 cm to 20 cm** 1:20

b) 1 cm to 100 cm 1:100

c) 1 cm to 1 m 1:100

d) 1 cm to 5 m 1:500

e) 1 mm to 1 cm 1:10

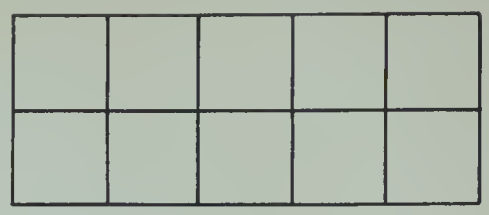
f) 1 mm to 1 m 1:1000

NAME DATE

1. Complete.

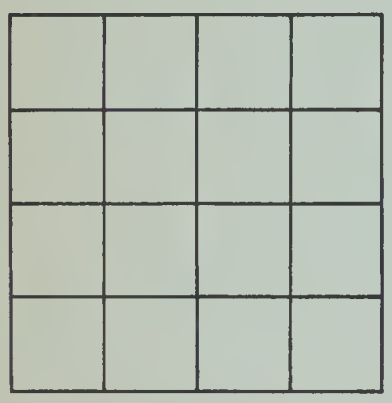
a) Area = (6 × 3) cm²

= 18 cm²



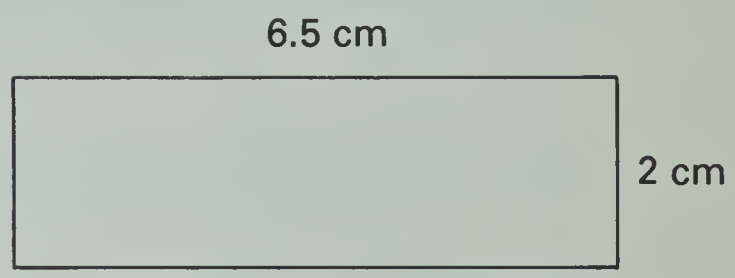
b) Area = (2 × 5) cm²

= 10 cm²



c) Area = (4 × 4) cm²

= 16 cm²

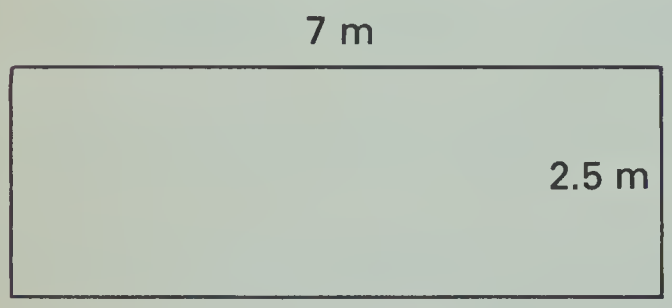


d) Area = (6.5 × 2) cm²

= 13 cm²

2. Find the area of each shape.

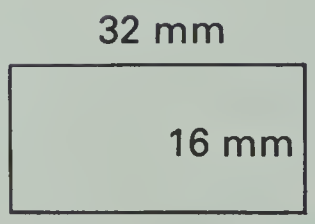
a)



Area = (7 × 2.5) m²

= 17.5 m²

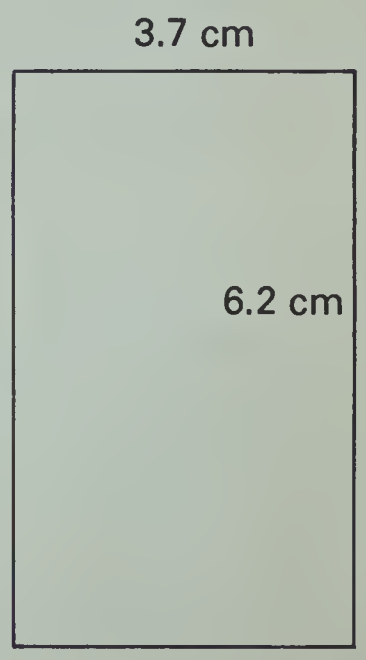
b)



Area = (32 × 16) mm²

= 512 mm²

c)



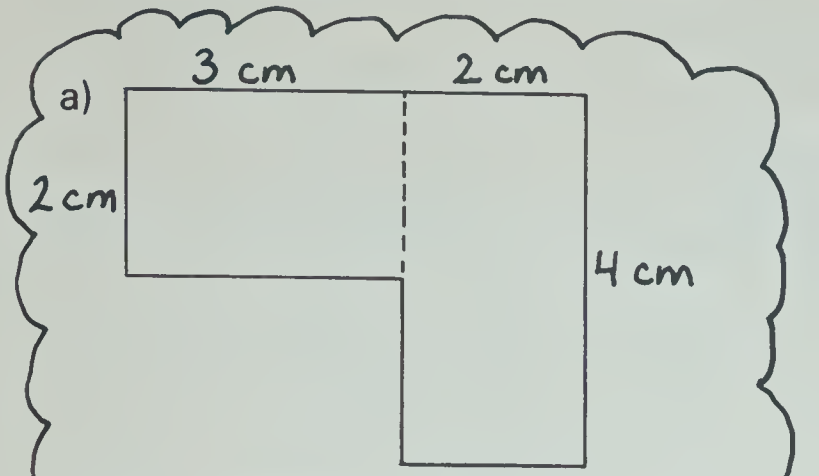
Area = (3.7 × 6.2) cm²

= 22.94 cm²

Additional practice in area to follow pages 156 to 157

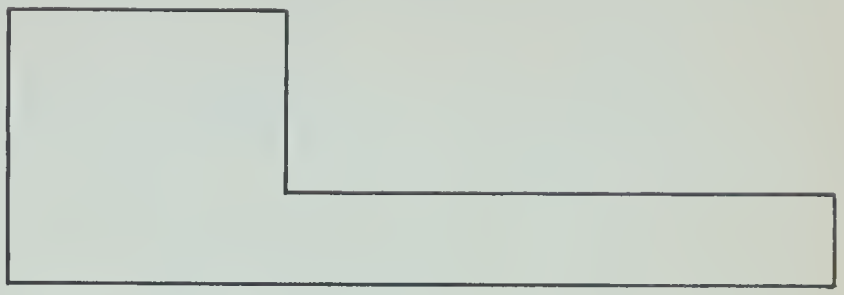
1. Calculate the area of each shape.

a)



Area = $(3 \times 2)\,cm^2 + (4 \times 2)\,cm^2$
= $6\,cm^2 + 8\,cm^2$
= $14\,cm^2$

b)



Area = $(3 \times 3)\,cm^2 + (6 \times 1)\,cm^2$
= $9\,cm^2 + 6\,cm^2$
= $15\,cm^2$

c)

Area = $(4 \times 4)\,cm^2 + (3 \times 2)\,cm^2$
= $16\,cm^2 + 6\,cm^2$
= $22\,cm^2$

d)

Area = $(5 \times 2)\,cm^2 + (2 \times 2)\,cm^2 + (5 \times 2)\,cm^2$
= $10\,cm^2 + 4\,cm^2 + 10\,cm^2$
= $24\,cm^2$

e)

Area = $(3 \times 2)\,cm^2 + (2 \times 2)\,cm^2 + (3 \times 2)\,cm^2$
= $6\,cm^2 + 4\,cm^2 + 6\,cm^2$
= $16\,cm^2$

f)

Area = $(1 \times 1)\,cm^2 + (8 \times 1)\,cm^2 + (1 \times 1)\,cm^2$
= $1\,cm^2 + 8\,cm^2 + 1\,cm^2$
= $10\,cm^2$

NAME DATE

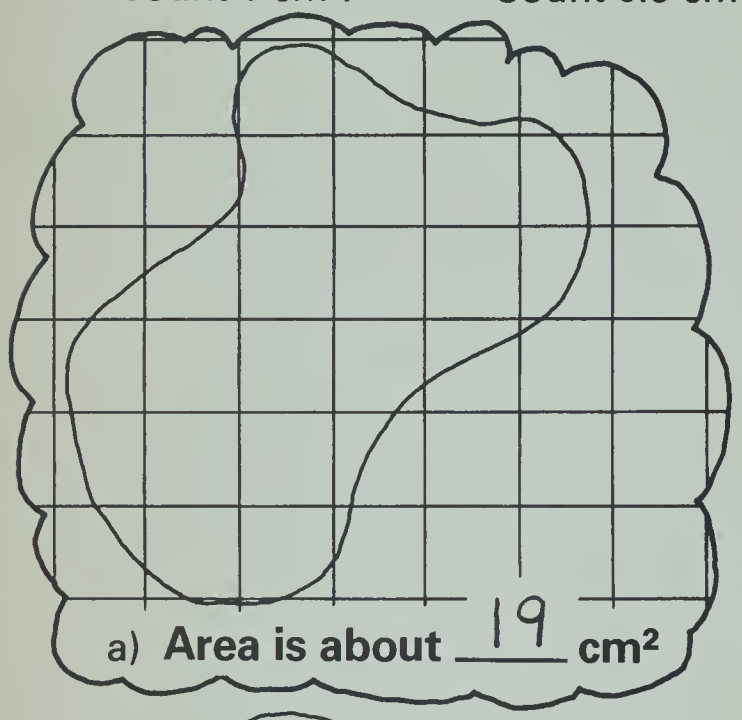
Find the approximate area of each shape.
Use a clear sheet of acetate marked in square centimetres
or mark a sheet of tracing paper in square centimetres.

Count 1 cm^2.

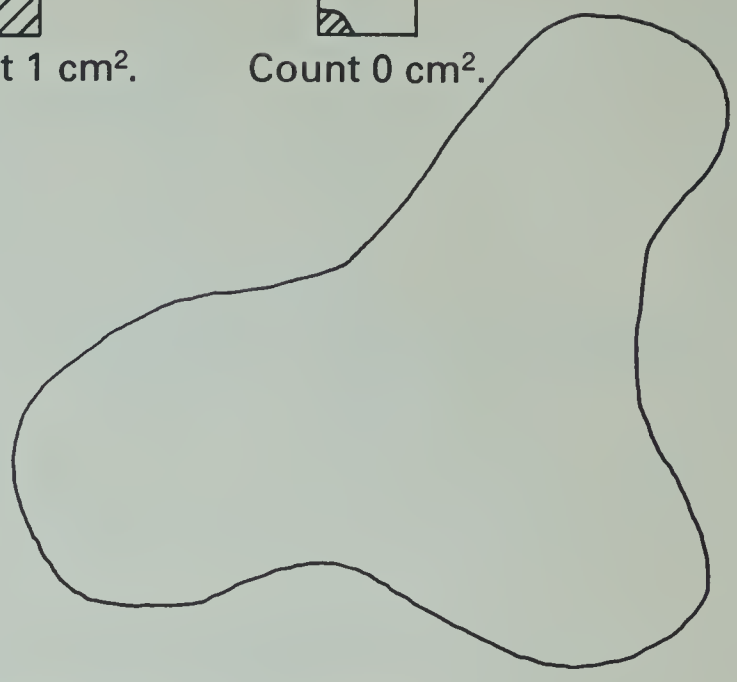
Count 0.5 cm^2.

Count 1 cm^2.

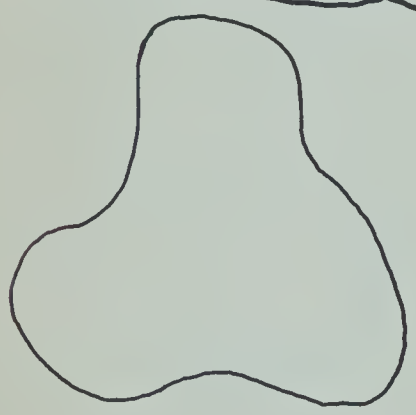
Count 0 cm^2.



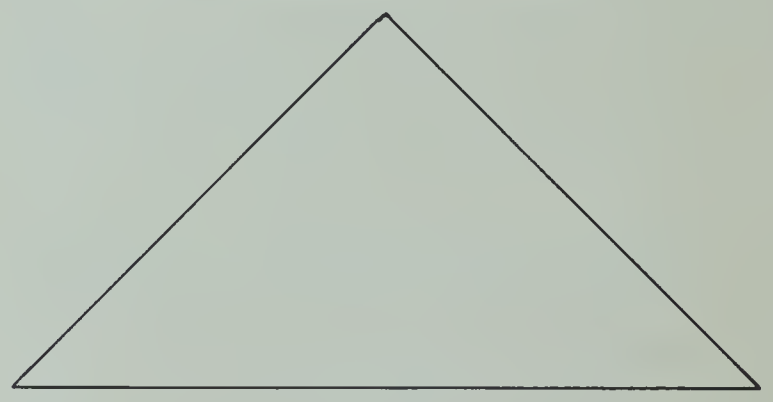
a) **Area is about** 19 **cm²**



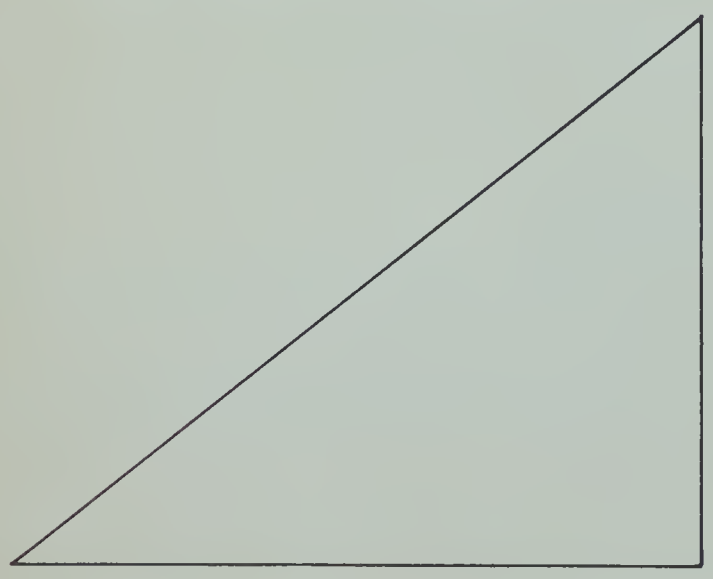
b) Area is about 30 cm^2



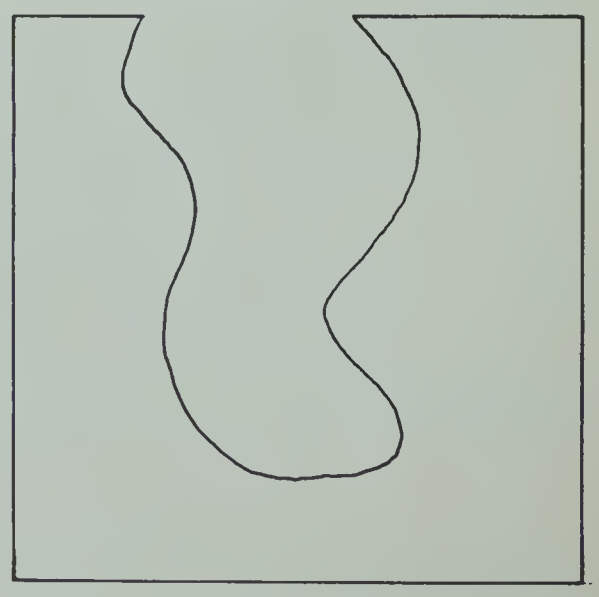
c) Area is about 11 cm^2



d) Area is about 16 cm^2



e) Area is about 22.5 cm^2



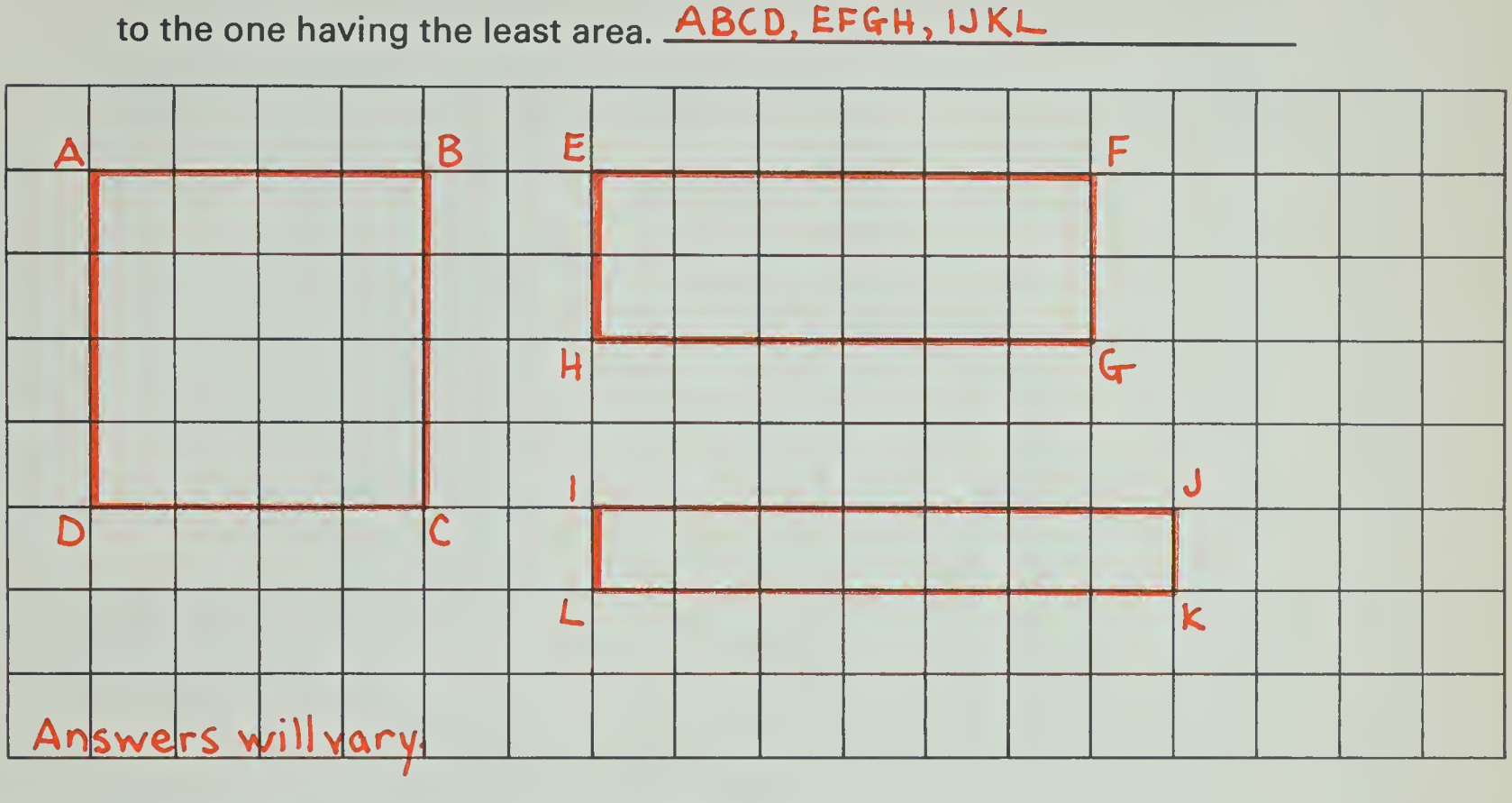
f) Area is about 24 cm^2

Additional practice in area, irregular shapes, to follow pages 160 to 161

NAME DATE

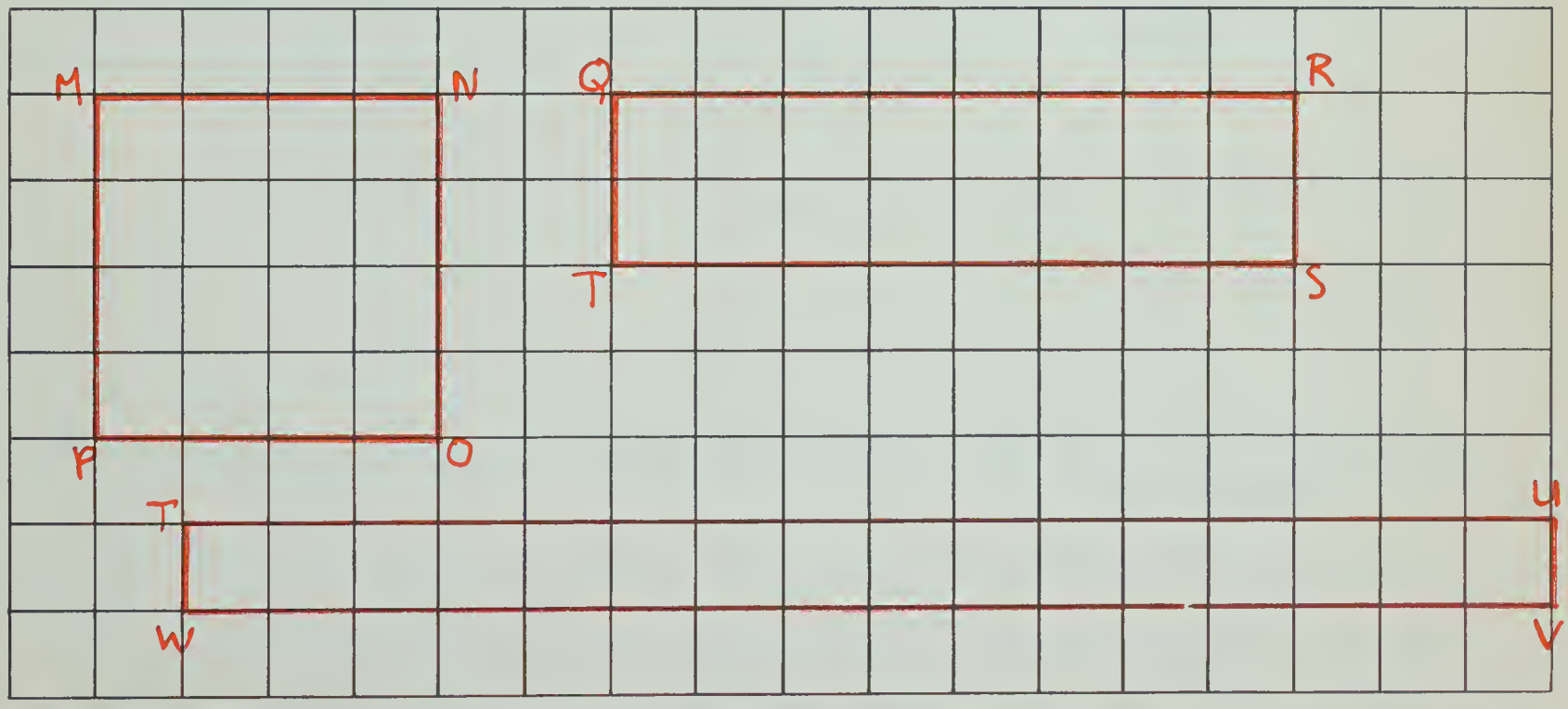
1. a) Draw 3 different rectangular regions, each having a perimeter of 16 cm. Name each region.
   b) List the rectangles in order from the one having the greatest area

   to the one having the least area. ABCD, EFGH, IJKL



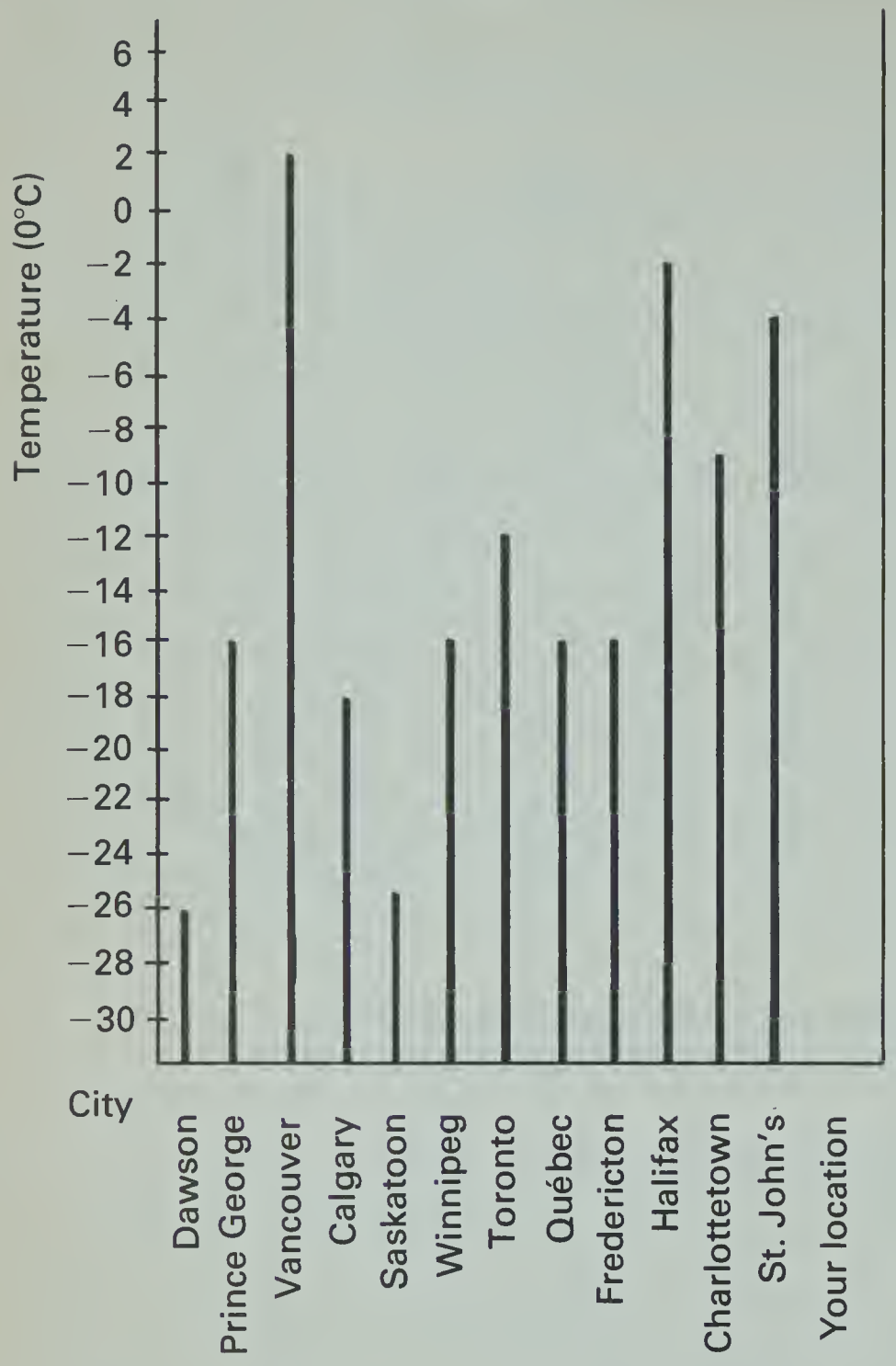
2. a) Draw 3 different rectangular regions each having an area of 16 cm^2.
   b) List the rectangles in order from the one having the greatest perimeter

   to the one having the least perimeter TUVW, QRST, MNOP.



NAME DATE

Temperature Lows for February 22



1. Which is the coldest city on February 22?

   Dawson

2. Which is the warmest city?

   Vancouver

3. What is the difference in temperature between the two?

   28° C

4. Which 4 cities have the same temperature?

   Prince George, Winnipeg

   Québec, Fredericton

5. What is the coldest temperature which could be shown on this graph? −30° C

6. Mark the temperature low for your location on February 22. Phone your local weather bureau for this information.
   Answers will vary.

7. What is the difference in temperature between your location and Vancouver?

   Answers will vary.

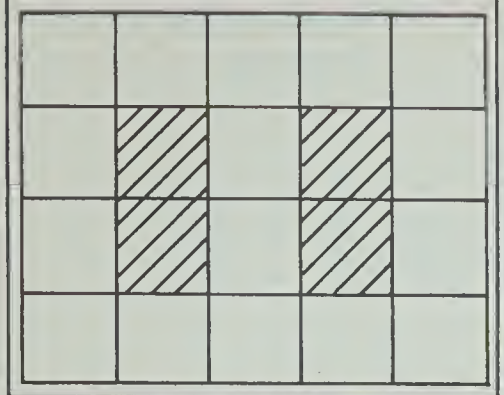
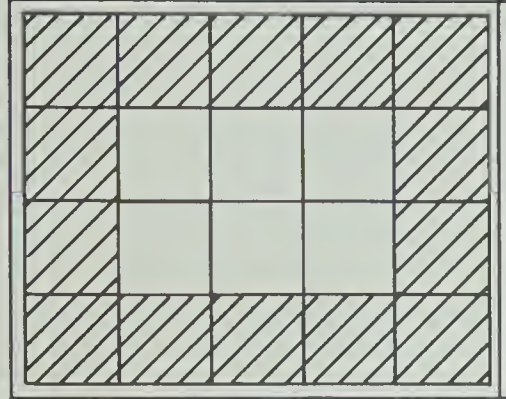
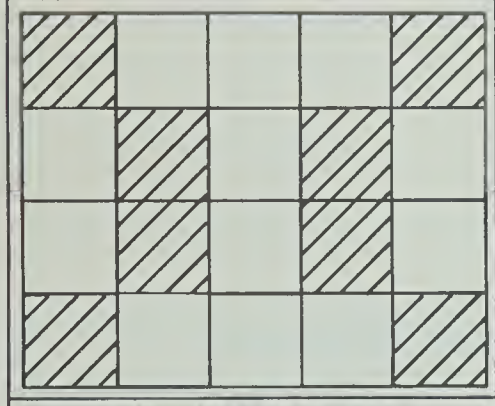
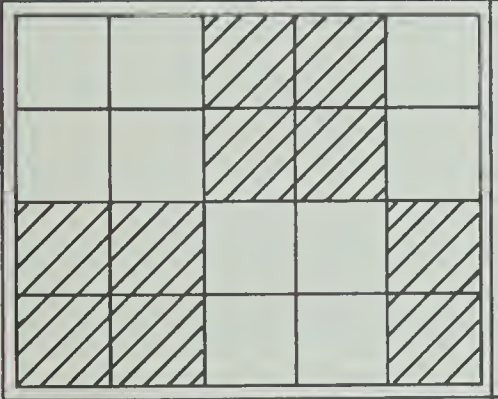
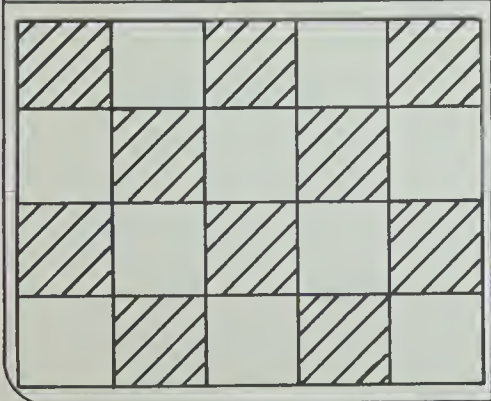
8. List the cities in order from the one having the highest temperature to the one having the lowest temperature.

   Vancouver, Halifax, St. John's, Charlottetown, Toronto, Prince George, Wimipeg, Québec, Fredericton, Calgary, Saskatoon, Dawson

Additional practice in straight-line graphing to follow page 168

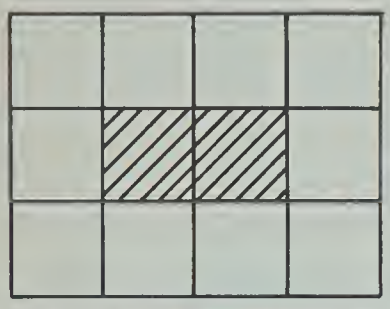
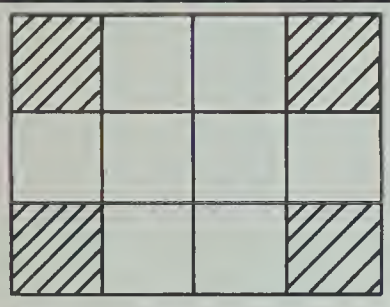
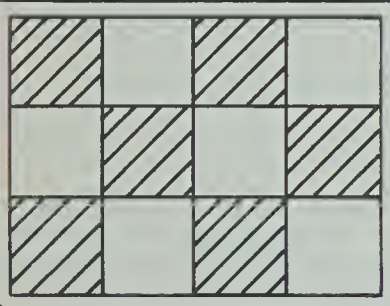
NAME DATE

For each pattern, compare the number of shaded squares to the number of white squares. Complete the chart.

Pattern	Number of squares shaded	Number of white squares	Comparison	Ratio Form	Fraction
	4	16	4 to 16	4:16	$\frac{4}{16}$
	14	6	14 to 6	14:6	$\frac{14}{6}$
	8	12	8 to 12	8:12	$\frac{8}{12}$
	10	10	10 to 10	10:10	$\frac{10}{10}$
	10	10	10 to 10	10:10	$\frac{10}{10}$

NAME DATE

1. For each pattern, express the ratio of shaded squares to white squares as a least-terms fraction. Complete the chart.

Pattern	Ratio form	Fraction	Equivalent least-terms fraction
	2 : 10	$\frac{2}{10}$	$\frac{2\div2}{10\div2}=\frac{1}{5}$
	4:8	$\frac{4}{8}$	$\frac{4\div4}{8\div4}=\frac{1}{2}$
	6 : 6	$\frac{6}{6}$	$\frac{6\div6}{6\div6}=\frac{1}{1}$

2. Complete.

Ratio	Fraction	Equivalent least-terms fraction
5:10	$\frac{5}{10}$	$\frac{5\div5}{10\div5}=\frac{1}{2}$
5:15	$\frac{5}{15}$	$\frac{5\div5}{15\div5}=\frac{1}{3}$
5:20	$\frac{5}{20}$	$\frac{5\div5}{20\div5}=\frac{1}{4}$
4:12	$\frac{4}{12}$	$\frac{4\div4}{12\div4}=\frac{1}{3}$

Ratio	Fraction	Equivalent least-terms fraction
2:10	$\frac{2}{10}$	$\frac{2\div2}{10\div2}=\frac{1}{5}$
2:4	$\frac{2}{4}$	$\frac{2\div2}{4\div2}=\frac{1}{2}$
10:100	$\frac{10}{100}$	$\frac{10\div10}{100\div10}=\frac{1}{10}$
5:50	$\frac{5}{50}$	$\frac{5\div5}{50\div5}=\frac{1}{10}$

3. Write the equivalent least-terms fraction.

a) 3:12 $\frac{1}{4}$ b) 5:25 $\frac{1}{5}$ c) 10:50 $\frac{1}{5}$ d) 50:100 $\frac{1}{2}$

4. Mr. Bianco bought 20 brown and 60 white floor tiles.

a) What is the ratio of brown tiles to white tiles? 20:60

b) Express the ratio as a least-terms fraction. $\frac{1}{3}$

Additional practice in ratios as least-terms fractions to follow page 188

NAME DATE

1. Complete.

a) $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ 1:2 = 2:4

$\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$ 1:2 = 4:8

b) $\frac{1}{2} = \frac{1 \times 3}{2 \times 3} = \frac{3}{6}$ 1:2 = 3:6

$\frac{1}{2} = \frac{1 \times 9}{2 \times 9} = \frac{9}{18}$ 1:2 = 9:18

c) $\frac{1}{5} = \frac{1 \times 4}{5 \times 4} = \frac{4}{20}$ 1:5 = 4:20

$\frac{1}{5} = \frac{1 \times 2}{5 \times 2} = \frac{2}{10}$ 1:5 = 2:10

d) $\frac{1}{10} = \frac{1 \times 5}{10 \times 5} = \frac{5}{50}$ 1:10 = 5:50

$\frac{1}{10} = \frac{1 \times 10}{10 \times 10} = \frac{10}{100}$ 1:10 = 10:100

e) $\frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$ 1:3 = 2:6

$\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$ 1:3 = 4:12

f) $\frac{1}{6} = \frac{1 \times 2}{6 \times 2} = \frac{2}{12}$ 1:6 = 2:12

$\frac{1}{6} = \frac{1 \times 3}{6 \times 3} = \frac{3}{18}$ 1:6 = 3:18

2. Write 3 equivalent fractions for each.
List the corresponding equivalent ratios.

a) $\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$

1:2 2:4 3:6 4:8

b) $\frac{1}{4}$ $\frac{2}{8}$ $\frac{3}{12}$ $\frac{4}{16}$

1:4 2:8 3:12 4:16

c) $\frac{2}{3}$ $\frac{4}{6}$ $\frac{6}{9}$ $\frac{8}{12}$

2:3 4:6 6:9 8:12

d) $\frac{4}{5}$ $\frac{8}{10}$ $\frac{12}{15}$ $\frac{16}{20}$

4:5 8:10 12:15 16:20

e) $\frac{5}{8}$ $\frac{10}{16}$ $\frac{15}{24}$ $\frac{20}{32}$

5:8 10:16 15:24 20:32

f) $\frac{3}{5}$ $\frac{6}{10}$ $\frac{9}{15}$ $\frac{12}{20}$

3:5 6:10 9:15 12:20

Additional practice in equivalent ratios to follow page 189

NAME DATE

1. Complete.

Rate	Ratio	Fraction	Least-terms fraction	Equivalent least-terms ratio
4 apples for 80¢	4:80	$\frac{4}{80}$	$\frac{1}{20}$	1:20
100 chairs for 50 people	100:50	$\frac{100}{50}$	$\frac{2}{1}$	2:1
10 sandwiches for 5 people	10:5	$\frac{10}{5}$	$\frac{2}{1}$	2:1
6 L of gasoline for 96 km	6:96	$\frac{6}{96}$	$\frac{1}{16}$	1:16
360 cookies in 10 boxes	360:10	$\frac{360}{10}$	$\frac{36}{1}$	36:1

2. Complete.

Rate	Ratio	An equivalent ratio	Meaning
5 people in 1 car	$\frac{5}{1}$	$\frac{5 \times 4}{1 \times 4} = \frac{20}{4}$	20 people in 4 cars
4 people in 1 car	$\frac{4}{1}$	$\frac{4 \times 2}{1 \times 2} = \frac{8}{2}$	8 people in 2 cars
36 people in 1 bus	$\frac{36}{1}$	$\frac{36 \times 3}{1 \times 3} = \frac{108}{3}$	108 people in 3 buses
10 pencils have a mass of 200 g	$\frac{10}{200}$	$\frac{10 \div 10}{200 \div 10} = \frac{1}{20}$	1 pencil has a mass of 20 g
10 books cost $12	$\frac{10}{12}$	$\frac{10 \div 10}{12 \div 10} = \frac{1}{1.20}$	1 book costs $1.20
4 plants for $36	$\frac{4}{36}$	$\frac{4 \div 2}{36 \div 2} = \frac{2}{18}$	2 plants cost $18.00.
12 m of cloth for 4 dresses	$\frac{12}{4}$	$\frac{12 \div 2}{4 \div 2} = \frac{6}{2}$	6 m of cloth for 2 dresses

Additional practice in rates, equivalent rates, to follow pages 191 to 192

NAME DATE

1. What is the per cent?

a) **30:100 = 30%** b) 50:100 = 50% c) 70:100 = 70% d) 0.5:100 = 0.5%

e) 0.3:100 = 0.3% f) 10.5:100 = 10.5% g) 55:100 = 55% h) 25:100 = 25%

i) 4:100 = 4% j) 1.5:100 = 1.5% k) 0.25:100 = 0.25% l) 10:100 = 10%

m) 20:100 = 20% n) 18:100 = 18% o) 5:100 = 5% p) 100:100 = 100%

2. What is the per cent?

a) $\frac{80}{100} = 80\%$ b) $\frac{20}{100} = 20\%$ c) $\frac{50}{100} = 50\%$ d) $\frac{90}{100} = 90\%$

e) $\frac{33}{100} = 33\%$ f) $\frac{75}{100} = 75\%$ g) $\frac{46}{100} = 46\%$ h) $\frac{19}{100} = 19\%$

i) $\frac{0.5}{100} = 0.5\%$ j) $\frac{0.45}{100} = 0.45\%$ k) $\frac{0.6}{100} = 0.6\%$ l) $\frac{0.87}{100} = 0.87\%$

m) $\frac{5.2}{100} = 5.2\%$ n) $\frac{8.4}{100} = 8.4\%$ o) $\frac{17.5}{100} = 17.5\%$ p) $\frac{20.45}{100} = 20.45\%$

3. Write the fraction.

a) **20% = $\frac{20}{100}$** b) 40% = $\frac{40}{100}$ c) 80% = $\frac{80}{100}$ d) 30% = $\frac{30}{100}$

e) 46% = $\frac{46}{100}$ f) 13% = $\frac{13}{100}$ g) 58% = $\frac{58}{100}$ h) 91% = $\frac{91}{100}$

i) 0.5% = $\frac{0.5}{100}$ j) 0.15% = $\frac{0.15}{100}$ k) 0.7% = $\frac{0.7}{100}$ l) 0.36% = $\frac{0.36}{100}$

m) 4.6% = $\frac{4.6}{100}$ n) 3.8% = $\frac{3.8}{100}$ o) 15.4% = $\frac{15.4}{100}$ p) 21.25% = $\frac{21.25}{100}$

NAME DATE

1. Complete.

Problem	Ratio	Equivalent ratio	Per cent
a) 20 pupils in the class 5 pupils are absent What per cent are absent?	$\frac{5}{20}$	$\frac{5\times5}{20\times5}=\frac{25}{100}$	25%
b) 25 pupils in the class 3 are absent What per cent are absent?	$\frac{3}{25}$	$\frac{3\times4}{25\times4}=\frac{12}{100}$	12%
c) 10 bananas 2 are rotten What per cent are rotten?	$\frac{2}{10}$	$\frac{2\times10}{10\times10}=\frac{20}{100}$	20%
d) 50 people in a line 10 are wearing blue coats What per cent are wearing blue coats?	$\frac{10}{50}$	$\frac{10\times2}{50\times2}=\frac{20}{100}$	20%
e) 20 people 4 have red hair What per cent have red hair?	$\frac{4}{20}$	$\frac{4\times5}{20\times5}=\frac{20}{100}$	20%
f) 5 pupils 1 pupil is taller than 60 cm What per cent is taller than 60 cm?	$\frac{1}{5}$	$\frac{1\times20}{5\times20}=\frac{20}{100}$	20%

2. Complete.

Ratio	Fraction	Equivalent fraction	Per cent
3:5	$\frac{3}{5}$	$\frac{3\times20}{5\times20}=\frac{60}{100}$	60%
4:10	$\frac{4}{10}$	$\frac{4\times10}{10\times10}=\frac{40}{100}$	40%
5:20	$\frac{5}{20}$	$\frac{5\times5}{20\times5}=\frac{25}{100}$	25%
5:25	$\frac{5}{25}$	$\frac{5\times4}{25\times4}=\frac{20}{100}$	20%
8:50	$\frac{8}{50}$	$\frac{8\times2}{50\times2}=\frac{16}{100}$	16%
30:10	$\frac{30}{10}$	$\frac{30\times10}{10\times10}=\frac{300}{100}$	300%
15:10	$\frac{15}{10}$	$\frac{15\times10}{10\times10}=\frac{150}{100}$	150%
40:20	$\frac{40}{20}$	$\frac{40\times5}{20\times5}=\frac{200}{100}$	200%

Additional practice in expressing ratio as per cent to follow pages 195 to 196

NAME DATE

1. Write as a fraction with a denominator of 100.

a) **0.4** $= \frac{40}{100}$ b) 0.6 $= \frac{60}{100}$ c) 0.5 $= \frac{50}{100}$ d) 0.9 $= \frac{90}{100}$

e) 0.15 $= \frac{15}{100}$ f) 0.32 $= \frac{32}{100}$ g) 0.95 $= \frac{95}{100}$ h) 0.60 $= \frac{60}{100}$

i) 0.49 $= \frac{49}{100}$ j) 0.19 $= \frac{19}{100}$ k) 0.09 $= \frac{9}{100}$ l) 0.02 $= \frac{2}{100}$

m) 1.55 $= \frac{155}{100}$ n) 1.45 $= \frac{145}{100}$ o) 3.5 $= \frac{350}{100}$ p) 2.9 $= \frac{290}{100}$

2. Complete.

a) **0.4 = 0.40**

$= \frac{40}{100}$

$= \frac{40}{\quad}\%$

b) 0.7 = 0.70

$= \frac{70}{100}$

$= \frac{70}{\quad}\%$

c) 0.45 $= \frac{45}{100}$

$= \frac{45}{\quad}\%$

d) 0.33 $= \frac{33}{100}$

$= \frac{33}{\quad}\%$

e) 1.55 $= \frac{155}{100}$

$= \frac{155}{\quad}\%$

f) 3.60 $= \frac{360}{100}$

$= \frac{360}{\quad}\%$

g) 2.81 $= \frac{281}{100}$

$= \frac{281}{\quad}\%$

h) 9.04 $= \frac{904}{100}$

$= \frac{904}{\quad}\%$

i) 0.05 $= \frac{5}{100}$

$= \frac{5}{\quad}\%$

j) 0.09 $= \frac{9}{100}$

$= \frac{9}{\quad}\%$

k) 0.02 $= \frac{2}{100}$

$= \frac{2}{\quad}\%$

l) 0.06 $= \frac{6}{100}$

$= \frac{6}{\quad}\%$

3. Express each decimal as a per cent.

a) **0.55 = 55%** b) 0.036 = 3.6% c) 0.87 = 87% d) 0.21 = 21%

e) 0.04 = 4% f) 0.07 = 7% g) 0.01 = 1% h) 0.09 = 9%

i) 0.2 = 20% j) 0.9 = 90% k) 0.3 = 30% l) 0.7 = 70%

m) 1.45 = 145% n) 2.62 = 262% o) 4.05 = 405% p) 4.5 = 450%

Additional practice in expressing decimals as per cent to follow page 197

NAME DATE

1. Complete to find.

a) **10% of 40**
10% means $\frac{10}{100}$ or 0.1
10% of 40 = 0.1 × 40
= 4

b) 20% of 60
20% means $\frac{20}{100}$ or 0.2
20% of 60 = 0.2 × 60
= 12

c) 30% of 90
30% means $\frac{30}{100}$ or 0.3
30% of 90 = 0.3 × 90
= 27

d) 25% of 80
25% means $\frac{25}{100}$ or 0.25
25% of 80 = 0.25 × 80
= 20

e) 50% of 100
50% means $\frac{50}{100}$ or 0.5
50% of 100 = 0.5 × 100
= 50

f) 15% of 90
15% means $\frac{15}{100}$ or 0.15
15% of 90 = 0.15 × 90
= 13.5

2. Find.

a) **10% of 20**
10% of 20 = 0.1 × 20
= 2

b) 10% of 40
0.1 × 40 = 4

c) 10% of 75
0.1 × 75 = 7.5

d) 20% of 80
0.2 × 80 = 16

e) 50% of 200
0.5 × 200 = 100

f) 80% of 800
0.8 × 800 = 640

g) 12% of 48
0.12 × 48 = 5.76

h) 8% of 96
0.08 × 96 = 7.68

i) 5% of 80
0.05 × 80 = 4

j) 20% of 45
0.2 × 45 = 9

k) 90% of 300
0.9 × 300 = 270

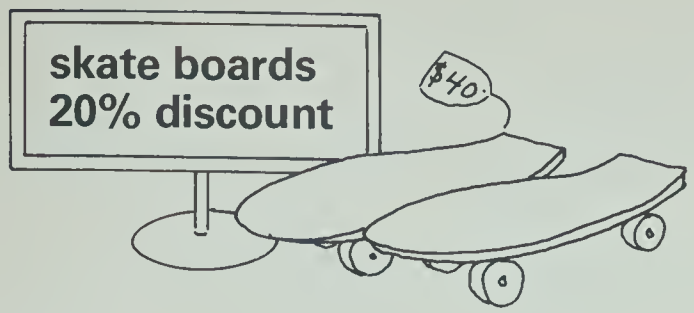
l) 14% of 250
0.14 × 250 = 36

Additional practice in finding per cent of a number to follow page 198

NAME DATE

1. Find the sale price.

a)

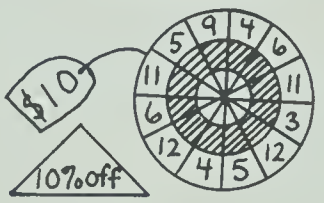


Discount = 20% of $40
= $(0.2×40)
= $ 8
Sale Price = $(40-8)
= $ 32

b) Discount = 20% of $110
= $(0.2 x 110)
= $22

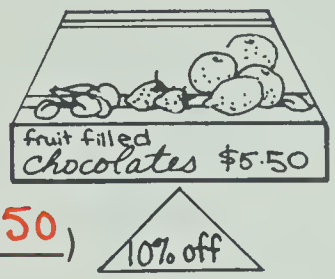
Sale Price = $(110 − 22)
= $88

c) Discount = 10% of $10
= $(0.1 × 10)
= $1



Sale Price = $(10 − 1)
= $9

d) Discount = 10% of $5.50
= $(0.1 × 5.50)
= $0.55



Sale Price = $(5.50 − 0.55)
= $4.95

Discount = 20% of $2.25
= $(0.2 × 2.25)
= $0.45

Sale Price = $(2.25 − 0.45)
= $1.80

2. Find the sale price.

a) **Regular price $5.00**
Discount 5%
5% of $5 = $(0.05×5.00)
= $0.25
Sale Price = $(5.00−0.25)
= $4.75

b) Regular price $200
Discount 30%
30% of $200 = $(0.3×200)
= $60
Sale Price = $(200−60)
= $140

c) Regular price $78
Discount 10%
10% of $78 = $(0.1×78)
= $7.80
Sale Price = $(78−7.80)
= $70.20

d) Regular price $56
Discount 8%
8% of $56 = $(0.08×56)
= $4.48
Sale Price = $(56−4.48)
= $51.52

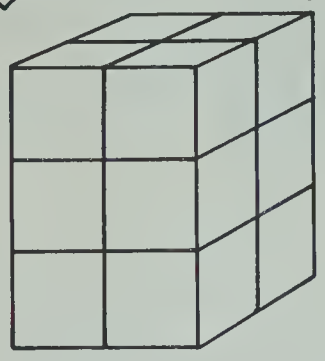
e) Regular price $24
Discount 6%
6% of $24 = $(0.06×24)
= $1.44
Sale Price = $(24−1.44)
= $22.56

f) Regular price $125
Discount 5%
5% of $125 = $(0.05×125)
= $6.25
Sale Price = $(125−6.25)
= $118.75

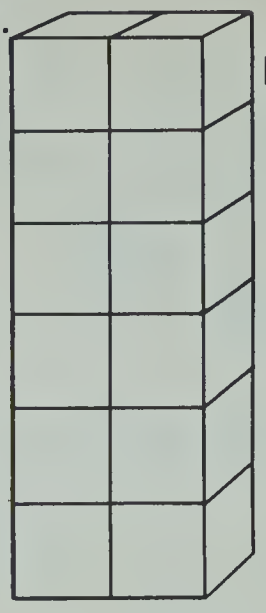
Additional practice in discount, sale price, to follow page 199

NAME DATE

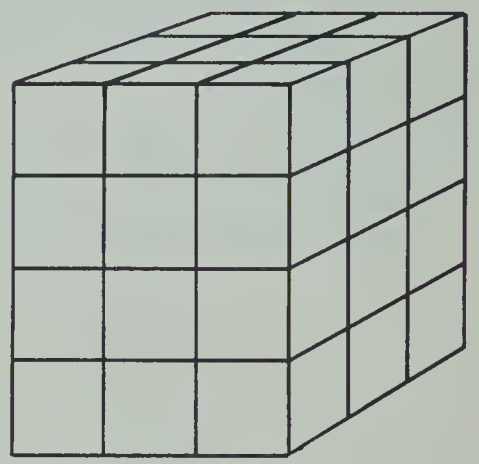
Calculate the volume of each solid. Each small cube is 1 cm^3.
a is the number of square units in the base.
v is the number of cubic units in the solid.

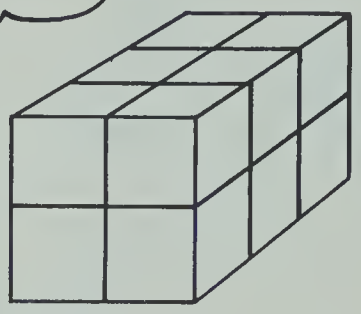


a) $a = 2 \times 2$
$= 4$
Area $= (2 \times 2)\ cm^2$
$= 4\ cm^2$
$v = 4 \times 3$
$= 12$
Volume $= (4 \times 3)\ cm^3$
$= 12\ cm^3$



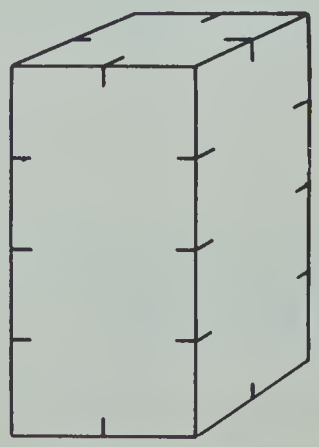
b) $a = 2 \times 1$
$= 2$
Area $= (2 \times 1)\ cm^2$
$= 2\ cm^2$
$v = 2 \times 6$
$= 12$
Volume $= (2 \times 6)\ cm^3$
$= 12\ cm^3$





c) $a = 2 \times 3$
$= 6$
Area $= (2 \times 3)\ cm^2$
$= 6\ cm^2$
$v = 6 \times 2$
$= 12$
Volume $= (6 \times 2)\ cm^3$
$= 12\ cm^3$

d) $a = 3 \times 3$
$= 9$
Area $= (3 \times 3)\ cm^2$
$= 9\ cm^2$
$v = 9 \times 4$
$= 36$
Volume $= (9 \times 4)\ cm^3$
$= 36\ cm^3$

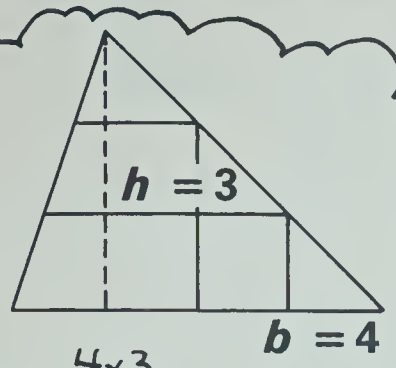


e) $a = 2 \times 2$
$= 4$
Area $= (2 \times 2)\ cm^2$
$= 4\ cm^2$
$v = 4 \times 4$
$= 16$
Volume $= (4 \times 4)\ cm^3$
$= 16\ cm^3$

Additional practice in calculating volume to follow pages 202 to 207

NAME DATE

1. Find the area of each triangle.
a is the number of square units in the triangle.

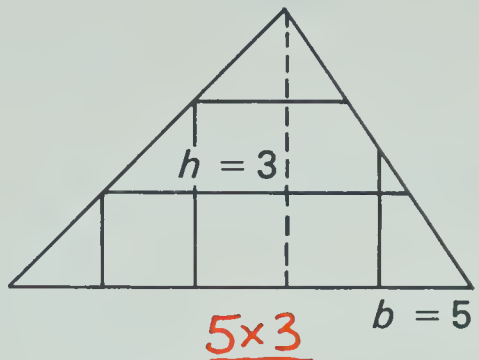


$a = \frac{4 \times 3}{2}$

$= \frac{12}{2}$

$= 6$

Area = 6 cm²

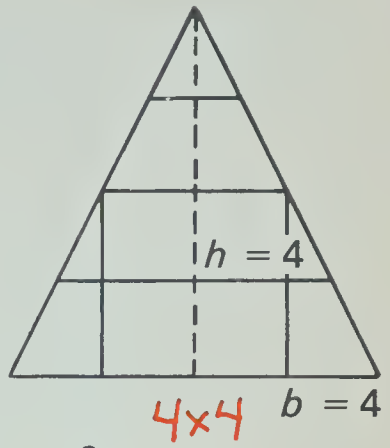


$a = \frac{5 \times 3}{2}$

$= \frac{15}{2}$

$= 7.5$

Area = 7.5 cm²



$a = \frac{4 \times 4}{2}$

$= \frac{16}{2}$

$= 8$

Area = 8 cm²

2. Suppose we build a structure 3 layers high on each triangle in question 1.
What is the volume of each structure?

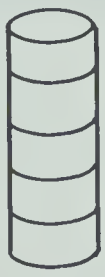
a) Area = 6 cm²
Volume = (6 × 3) cm³
= 18 cm³

b) Area = 7.5 cm²
Volume = (7.5 × 3) cm³
= 22.5 cm³

c) Area = 8 cm²
Volume = (8 × 3) cm³
= 24 cm³

3. Find the volume of each cylinder.
v is the number of cubic units in the cylinder.

a) Area of base is approximately 6 cm².



$v = 6 \times 5$

$= 30$

Volume = (6 × 5) cm³
= 30 cm³

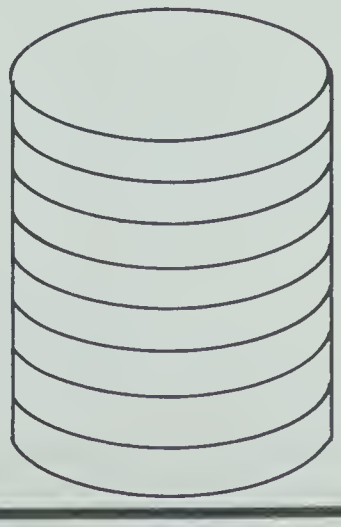
b) Area of base is approximately 14 cm².

$v = 14 \times 6$

$= 84$

Volume = (14 × 6) cm³
= 84 cm³

c) Area of base is approximately 24 cm².



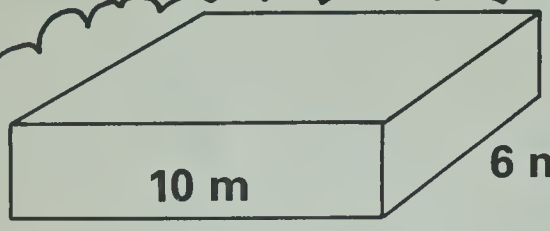
$v = 24 \times 8$

$= 192$

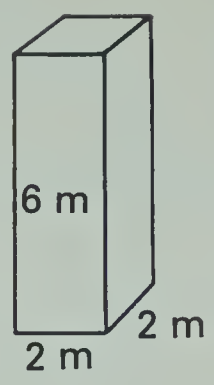
Volume = (24 × 8) cm³
= 192 cm³

NAME DATE

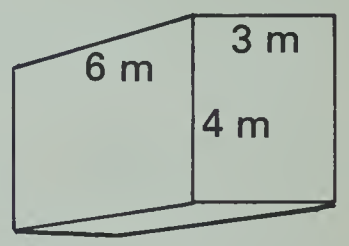
1. Calculate the volume of each structure.
a is the number of square units in the base.
v is the number of cubic units in the solid.

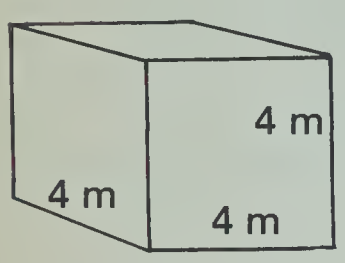


a) $a = 10 \times 6$
$= 60$
Area $= (10 \times 6)\ m^2$
$= 60\ m^2$
$v = 60 \times 2$
$= 120$
Volume $= (60 \times 2)\ m^3$
$= 120\ m^3$



b) $a = 2 \times 2$
$= 4$
Area $= (2 \times 2)\ m^2$
$= 4\ m^2$
$v = 4 \times 6$
$= 24$
Volume $= (4 \times 6)\ m^3$
$= 24\ m^3$

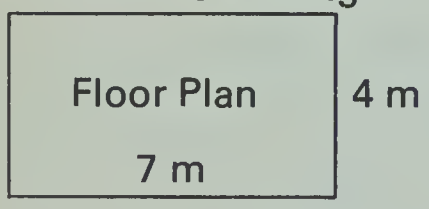




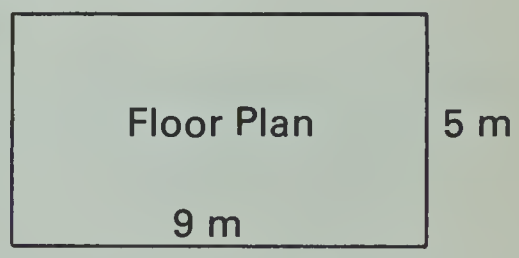
c) $a = 4 \times 4$
$= 16$
Area $= (4 \times 4)\ m^2$
$= 16\ m^2$
Volume $= (16 \times 4)\ m^3$
$= 64\ m^3$

d) $a = 6 \times 3$
$= 18$
Area $= (6 \times 3)\ m^2$
$= 18\ m^2$
Volume $= (18 \times 4)\ m^3$
$= 72\ m^3$

2. Calculate the number of cubic metres of air contained in each room.
The walls are 3 m high.



a) $a = 7 \times 4$
$= 28$
Area $= (7 \times 4)\ m^2$
$= 28\ m^2$
$v = 28 \times 3$
$= 84$
Volume $= (28 \times 3)\ m^3$
$= 84\ m^3$



b) $a = 9 \times 5$
$= 45$
Area $= (9 \times 5)\ m^2$
$= 45\ m^2$
$v = 45 \times 3$
$= 135$
Volume $= (45 \times 3)\ m^3$
$= 135\ m^3$

Additional practice in calculating volume to follow pages 209 to 210

NAME DATE

1. Find the average attendance for this week.

Monday	Tuesday	Wednesday	Thursday	Friday
30	28	29	28	30

$\text{Average} = \frac{30+28+29+28+30}{5}$

$= \frac{145}{5}$

$= 29$

The average attendance is 29 students.

2. Find the average temperature for 5 d.

Mon	Tues	Wed	Thurs	Fri
20°C	20°C	24°C	24°C	22°C

$\text{Average} = \frac{20+20+24+24+22}{5}$

$= \frac{110}{5}$

$= 22$

The average temperature is 22°C.

3. Find the average rainfall for 3 mo.

May	June	July
4 cm	2 cm	3 cm

$\text{Average} = \frac{4+2+3}{3}$

$= \frac{9}{3}$

$= 3$

The average rainfall is 3 cm.

4. Find the average mark for 8 students.
40, 43, 50, 35, 28, 41, 37, 38

$\text{Average} = \frac{40+43+50+35+28+41+37+38}{8}$

$= \frac{312}{8}$

$= 39$

The average mark is 39.

5. Find the average mass of 4 brothers.
50 kg, 42 kg, 60 kg, 52 kg

$\text{Average} = \frac{50+42+60+52}{4}$

$= \frac{204}{4}$

$= 51$

The average mass is 51 kg.

6. Find the average.
The answer for the average will not always be a whole number.

a) 10, 14, 8, 6

$= \frac{10+14+8+6}{4}$

$= \frac{38}{4}$

$= 9.5$

The average is 9.5.

b) 21, 20, 22

$= \frac{21+20+22}{3}$

$= \frac{63}{3}$

$= 21$

The average is 21.

c) 32, 34, 36, 38

$= \frac{32+34+36+38}{4}$

$= \frac{140}{4}$

$= 35$

The average is 35.

d) 1.5, 2, 2.5, 3

$= \frac{1.5+2+2.5+3}{4}$

$= \frac{9}{4}$

$= 2.25$

The average is 2.25.

e) 10.5, 12.5, 11.5

$= \frac{10.5+12.5+11.5}{3}$

$= \frac{34.5}{3}$

$= 11.5$

The average is 11.5

f) 0.4, 0.7, 0.3, 0.4

$= \frac{0.4+0.7+0.3+0.4}{4}$

$= \frac{1.8}{4}$

$= 0.45$

The average is 0.45

NAME DATE

1. **Winnie has read 0.5 of the book. How many pages are there?**

Number of pages = 117 × 2
= 234

There are 234 pages.

2. A car has travelled at this rate for 1.25 h. How far has it travelled?

100 × 1.25 = 125

The car has travelled 125 km.

3. What is the average number of pages read each day?

Day	Pages Read
Mon.	24
Tues.	32
Wed.	28
Thurs.	29
Fri.	27

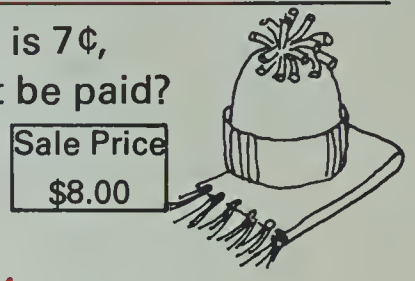
$\text{Average} = \frac{24+32+28+29+27}{5}$

$= \frac{140}{5}$

$= 28$

The average number of pages is 28.

4. If sales tax on $1.00 is 7¢, how much tax must be paid?



8.00 × 0.07 = 0.56

$0.56 must be paid.

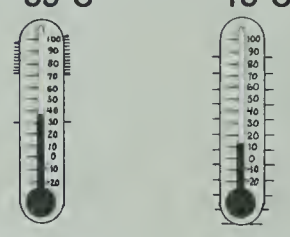
5. The longest moustache ever recorded. is approximately 260 cm. If each side is the same length, how long is a side?

260 ÷ 2 = 130

A side is 130 cm long.

6. What is the difference in temperature for these 2 cities?

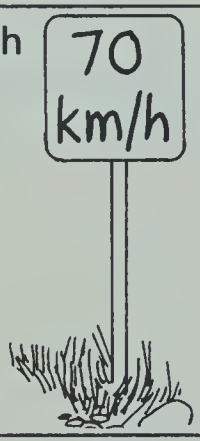
CAPE TOWN MONTREAL



39 − 13 = 26

The difference in temperature is 26°C.

7. How far will a car travel in 0.5 h at this rate?



70 × 0.5 = 35

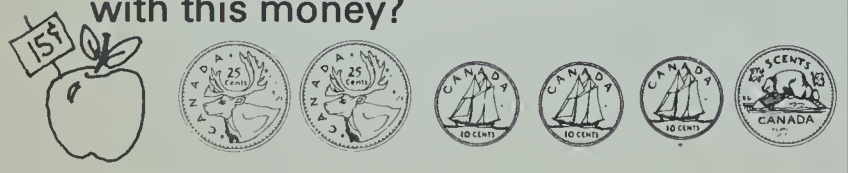
The car will travel 35 km.

8. George jogs 1.75 km/d. How far will he jog in 100 d?

1.75 × 100 = 175

He will jog 175 km.

9. How many apples may be purchased with this money?



85 ÷ 15 = 5.6

5 apples may be purchased.

10. Chiara jogs 2.5 km/d. How far will she jog in 300 d?

2.5 × 300 = 750

She will jog 750 km.

Additional practice in word problems to follow page 218

NAME DATE

1. Add.

a)
16.4
3.6
2.7
1.5
24.2

Think	Record
12, 18, 22	2
3, 5, 8, 14	4
2	2

b)
23.4
9.6
0.3
4.1
37.4

c)
3.9
5.7
7.3
81.2
98.1

d)
2.5
5.7
8.3
40.5
57.0

e)
14.1
36.5
10.8
20.5
81.9

f)
42.3
16.8
21.5
28.9
109.5

g)
13.4
10.0
18.4
11.9
53.7

h)
20.0
13.6
19.9
28.3
81.8

i)
22.5
5.6
8.9
28.7
65.7

j)
4.52
6.87
2.09
6.18
19.66

k)
2.46
0.92
8.09
6.02
17.49

l)
1.87
6.47
9.64
5.54
23.52

m)
8.62
1.19
3.34
8.00
21.15

n)
3.43
5.61
0.85
7.08
16.97

o)
16.47
82.59
19.00
28.79
146.85

p)
27.04
46.08
32.06
19.05
124.23

q)
55.63
24.63
71.45
80.60
232.31

r)
68.34
17.21
46.55
38.74
170.84

s)
24.76
19.43
54.76
19.50
118.45

2. A football player carried the ball 13.50 m, 18.25 m, 12.50 m, and 27.25 m in 1 game. What is the total distance that he carried the ball?

13.50
18.25
12.50
27.25
71.50

The total distance is 71.5 m.

3. The test scores for 5 math tests were 82.0, 76.5, 75.5, 80.0, and 79.5 What was the total mark for the 5 tests?

82.0
76.5
75.5
80.0
79.5
393.5

The total mark is 393.5.

4. The clerk in a fabric shop sold 8.50 m, 12.00 m, 10.75 m, and 10.50 m of cloth. How many metres of cloth did the clerk sell?

8.50
12.00
10.75
10.50
41.75

The clerk sold 41.75 m.

5. The distance around a room was 5.3 m, 4.8 m, 5.3 m, and 4.8 m. What is the perimeter of the room?

5.3
4.8
5.3
4.8
20.2

The perimeter is 20.2 m.

NAME DATE

1. Subtract.

		Think	Record
a)	34.7 − 19.8 = 14.9	17, 9 13, 4 2, 1	9 4 1

b) 46.7 − 28.9 = 17.8

c) 37.2 − 16.5 = 20.7

d) 80.4 − 56.7 = 23.7

e) 4.68 − 1.79 = 2.89

f) 7.34 − 2.58 = 4.76

g) 5.81 − 2.96 = 2.85

h) 8.44 − 5.68 = 2.76

i) 3.06 − 1.98 = 1.08

j) 57.43 − 28.76 = 28.67

k) 42.42 − 21.85 = 20.57

l) 54.00 − 1.98 = 52.02

m) 70.49 − 26.79 = 43.70

n) 39.42 − 19.76 = 19.66

o) 246.34 − 187.56 = 58.78

p) 571.36 − 427.85 = 143.51

q) 804.60 − 527.99 = 276.61

r) 756.60 − 149.89 = 606.71

s) 641.00 − 527.49 = 113.51

t) 407.82 − 178.94 = 228.88

u) 633.47 − 384.96 = 248.51

v) 176.45 − 148.76 = 27.69

w) 525.55 − 293.68 = 231.87

x) 457.82 − 289.99 = 167.83

2. You owe $24.80.
You pay $6.50 a month.
How much will you pay the last month?

$24.80
6.50
18.30
6.50
11.80
6.50
5.30 last payment

3. You owe $56.49.
You pay $10.25 a month.
How much will you pay the last month?

$56.49
10.25
46.24
10.25
35.99
10.25
25.74
10.25
15.49
10.25
5.24 last payment

4. You owe $87.99.
You pay $18.75 a month.
How much will you pay the last month?

$87.99
18.75
69.24
18.75
50.49
18.75
31.74
18.75
12.99 last payment

Additional practice in subtracting decimals to follow page 221

NAME DATE

1. Multiply.

a) 3.4 × 2.9 = 9.86

Think	Record
36	6
27, 30	30
8	8, one place left
6	6

306
68

b) 5.7 × 3.6 = 20.52
342
171

c) 9.7 × 2.8 = 27.16
776
194

d) 8.4 × 5.2 = 43.68
168
420

e) 24 × 1.7 = 40.8
168
24

f) 57 × 3.5 = 199.5
285
171

g) 48 × 2.9 = 139.2
432
96

h) 38 × 2.5 = 95.0
190
76

i) 76 × 4.8 = 364.8
608
304

j) 5.4 × 13 = 70.2
162
54

k) 7.4 × 26 = 192.4
444
148

l) 8.1 × 57 = 461.7
567
405

m) 6.6 × 42 = 277.2
132
264

n) 5.7 × 38 = 216.6
456
171

o) 256 × 2.4 = 614.4
1024
512

p) 387 × 1.9 = 735.3
3483
387

q) 472 × 5.8 = 2737.6
3776
2360

r) 634 × 4.7 = 2979.8
4438
2536

s) 396 × 8.4 = 3326.4
1584
3169

t) 43.7 × 5.8 = 253.46
3496
2185

u) 2.56 × 4.1 = 10.496
256
1024

v) 83.4 × 0.54 = 45.036
3336
4170

w) 4.28 × 3.7 = 15.836
2996
1284

x) 7.49 × 3.9 = 29.211
6741
2247

2. Each player rolls 2 dice.
Find the product of the numbers on the dice.
Identify the player with the greatest product.

Player	Number on Dice 1st	Number on Dice 2nd	Product
Marie	2.4	5.6	2.4 × 5.6 = 13.44 Marie has the greatest product.
Tom	3.5	2.1	3.5 × 2.1 = 7.35
Mike	6.0	1.2	6.0 × 1.2 = 7.20
Sarah	4.4	1.2	4.4 × 1.2 = 5.28

Additional practice in multiplying decimals to follow page 222

NAME DATE

1. Complete the patterns for multiplication.

a) 0.15 × 10 = 1.5
1.5 × 10 = 15
15 × 10 = 150

b) 0.92 × 10 = 9.2
9.2 × 10 = 92
92 × 10 = 920

c) 0.74 × 100 = 74
74 × 100 = 7400
7400 × 100 = 740 000

d) 0.45 × 100 = 45
4.5 × 100 = 450
45 × 100 = 4500

e) 0.68 × 1000 = 680
6.8 × 1000 = 6800
68 × 1000 = 68 000

f) 2.7 × 10 = 27
2.7 × 100 = 270
2.7 × 1000 = 2700

2. Complete the patterns for division.

a) 380 ÷ 10 = 38
38 ÷ 10 = 3.8
3.8 ÷ 10 = 0.38

b) 940 ÷ 10 = 94
94 ÷ 10 = 9.4
9.4 ÷ 10 = 0.94

c) 4700 ÷ 100 = 47
470 ÷ 100 = 4.7
47 ÷ 100 = 0.47

d) 54 200 ÷ 1000 = 54.2
5 420 ÷ 1000 = 5.42
542 ÷ 1000 = 0.542

e) 498 ÷ 10 = 49.8
498 ÷ 100 = 4.98
498 ÷ 1000 = 0.498

f) 756 ÷ 10 = 75.6
756 ÷ 100 = 7.56
756 ÷ 1000 = 0.756

3. Complete the table.

Number	Operations				
	× 10	÷ 100	÷ 10	× 100	÷ 1000
564	5 640	5.64	56.4	56 400	0.564
6 500	65 000	65	650	650 000	6.5
14 200	142 000	142	1420	1 420 000	14.2
18	180	0.18	1.8	1800	0.018
148	1480	1.48	14.8	14 800	0.148
9 060	90 600	90.6	906	906 000	9.06
56 100	561 000	561	5610	5 610 000	56.1

Additional practice in multiplying and dividing by 10, 100, 1000, to follow page 223

NAME DATE

1. Complete the patterns for multiplication.

a)		b)		c)	
2.3 × 100	= 230	5.7 × 100	= 570	8.4 × 100	= 840
2.3 × 10	= 23	5.7 × 10	= 57	8.4 × 10	= 84
2.3 × 1	= 2.3	5.7 × 1	= 5.7	8.4 × 1	= 8.4
2.3 × 0.1	= 0.23	5.7 × 0.1	= 0.57	8.4 × 0.1	= 0.84
2.3 × 0.01	= 0.023	5.7 × 0.01	= 0.057	8.4 × 0.01	= 0.084

2. Complete the patterns for division.

a)		b)		c)	
67 ÷ 100	= 0.67	75 ÷ 100	= 0.75	3.8 ÷ 100	= 0.038
67 ÷ 10	= 6.7	75 ÷ 10	= 7.5	3.8 ÷ 10	= 0.38
67 ÷ 1	= 67	75 ÷ 1	= 75	3.8 ÷ 1	= 3.8
67 ÷ 0.1	= 670	75 ÷ 0.1	= 750	3.8 ÷ 0.1	= 38
67 ÷ 0.01	= 6700	75 ÷ 0.01	= 7500	3.8 ÷ 0.01	= 380

3. Complete the patterns for multiplication.

a)	b)	c)	d)
0.8 × 0.01 = 0.008	0.3 × 0.01 = 0.003	4.9 × 0.01 = 0.049	7.8 × 0.01 = 0.078
8 × 0.01 = 0.08	3 × 0.01 = 0.03	49 × 0.01 = 0.49	78 × 0.01 = 0.78
80 × 0.01 = 0.8	30 × 0.01 = 0.3	490 × 0.01 = 4.9	780 × 0.01 = 7.8

4. Complete the patterns for division.

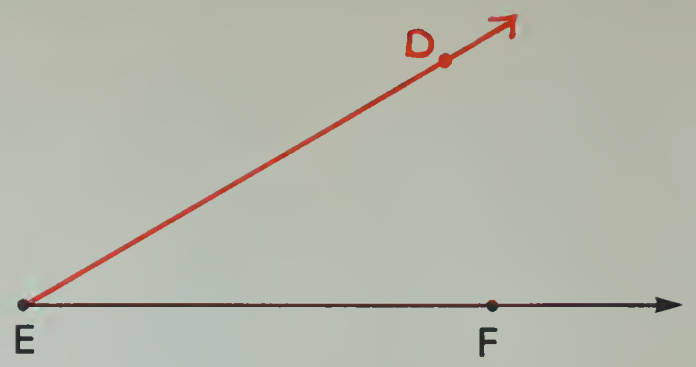
a)	b)	c)	d)
0.8 ÷ 0.01 = 80	0.5 ÷ 0.01 = 50	2.8 ÷ 0.01 = 280	4.2 ÷ 0.01 = 420
8 ÷ 0.01 = 800	5 ÷ 0.01 = 500	28 ÷ 0.01 = 2800	42 ÷ 0.01 = 4200
80 ÷ 0.01 = 8000	50 ÷ 0.01 = 5000	280 ÷ 0.01 = 28 000	420 ÷ 0.01 = 42 000

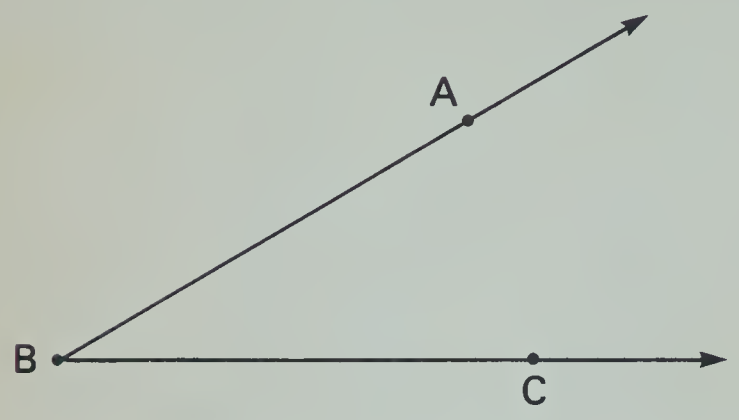
5. Complete the table.

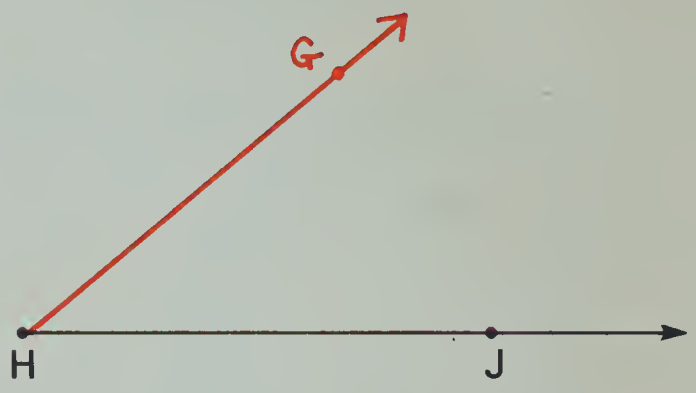
Number	Operations							
	÷ 1	× 0.01	× 10	÷ 0.1	÷ 0.01	× 0.1	× 1	÷ 10
4	4	0.04	40	40	400	0.4	4	0.4
24	24	0.24	240	240	2400	2.4	24	2.4
0.6	0.6	0.006	6	6	60	0.06	0.6	0.06
5.8	5.8	0.058	58	58	580	0.58	5.8	0.58
8	8	0.08	80	80	800	0.8	8	0.8
0.9	0.9	0.009	9	9	90	0.09	0.9	0.09

NAME DATE

1. a) On EF draw ∠ DEF congruent to ∠ ABC.
   b) On HJ draw ∠ GHJ 10° greater than ∠ ABC.

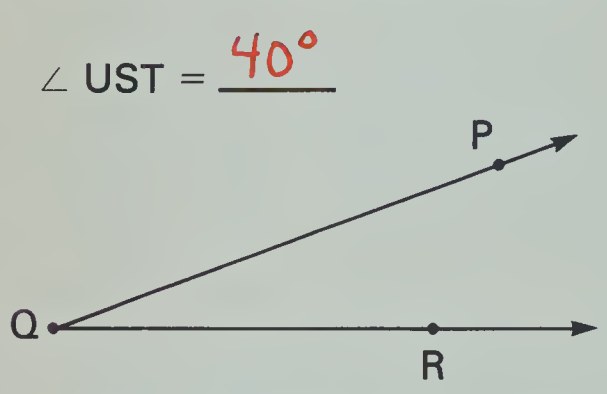


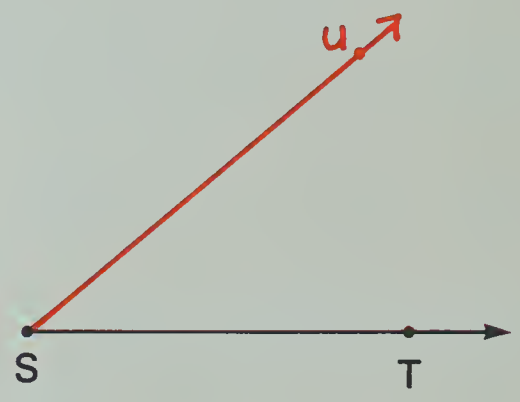




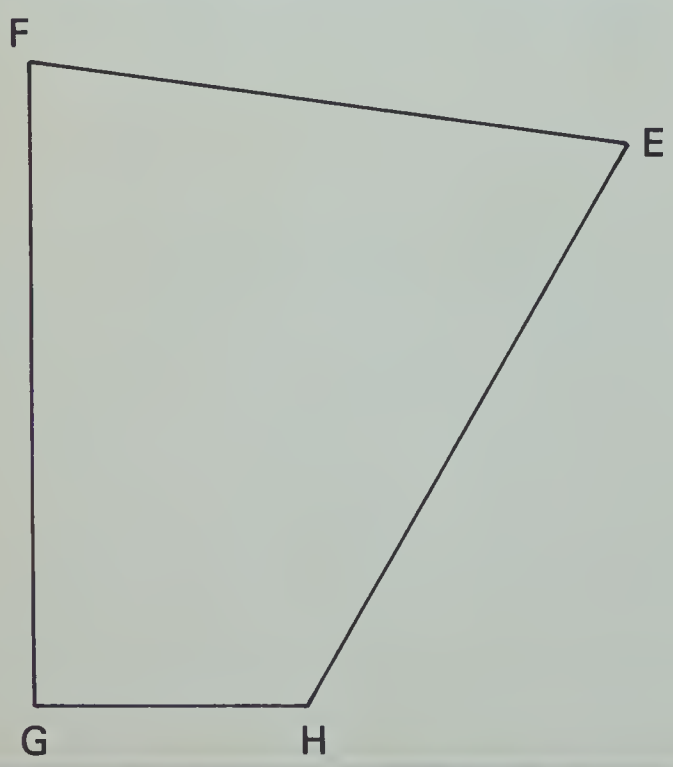
2. a) On ST draw an angle UST twice the size of ∠PQR.
   b) What is the measurement of ∠ UST?

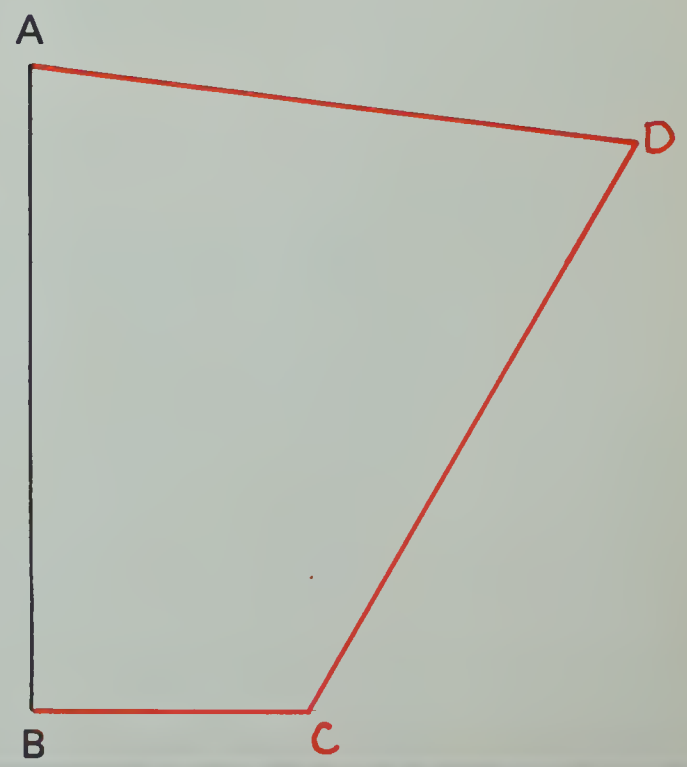
∠ UST = 40°





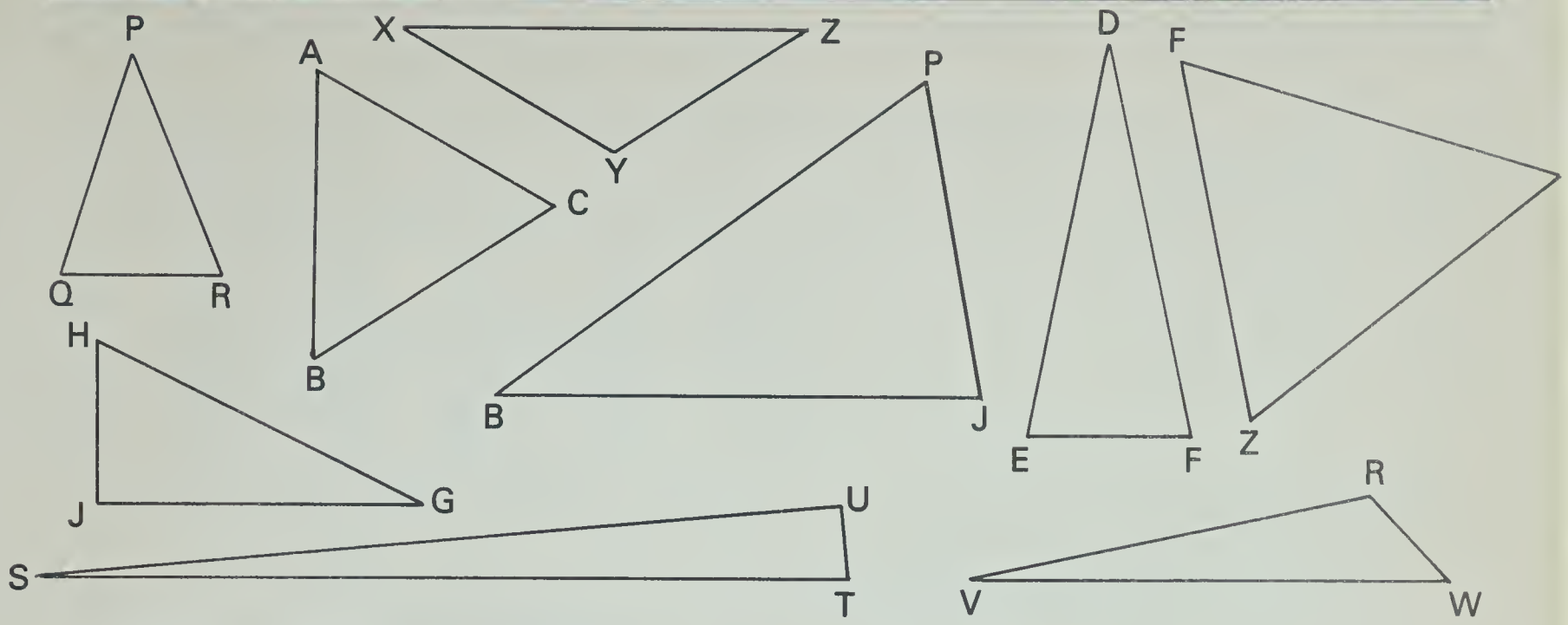
3. Draw a figure ABCD congruent to FGHE.





Additional practice in drawing angles to follow pages 229 to 230

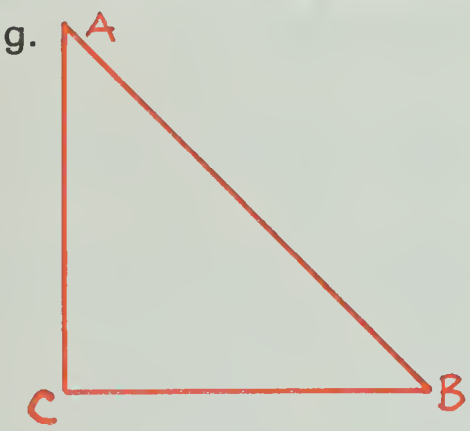
NAME DATE



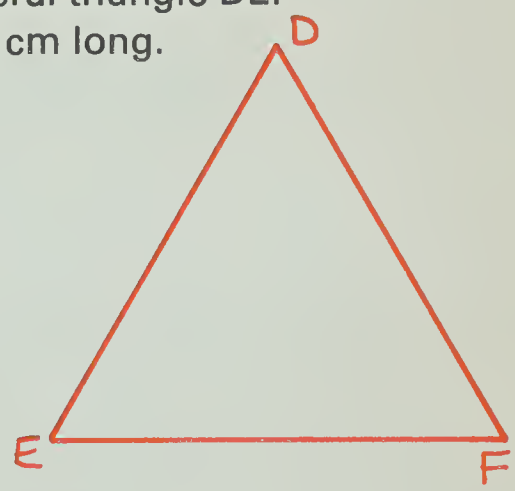
1. Use the chart to sort the triangles.

Equilateral Triangles	Isosceles Triangles	Scalene Triangles
ABC	DEF	GHJ
FTZ	XYZ	BJP
	PQR	RVW
		STU

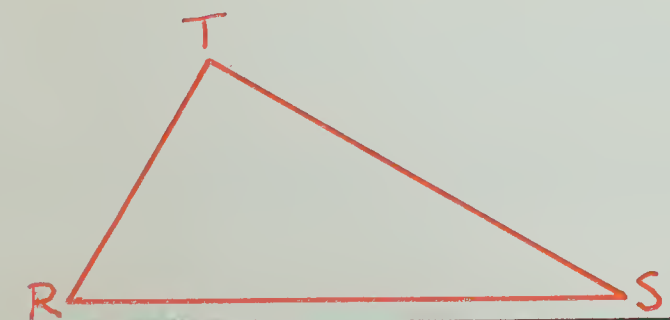
2. Draw an isosceles triangle ABC with $\angle ACB = 90°$ and AB and BC 4 cm long.



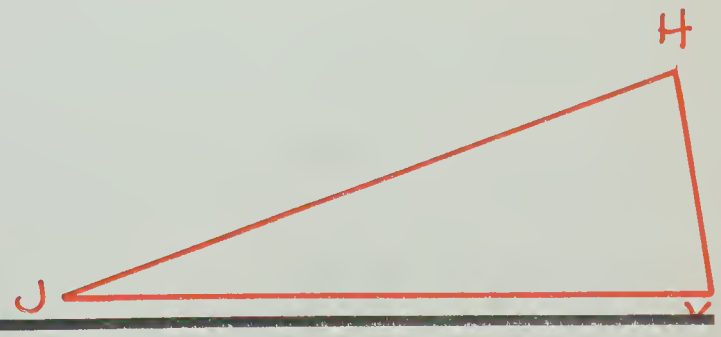
3. Draw an equilateral triangle DEF with each side 5 cm long.



4. Draw a scalene triangle RST with RS = 6 cm, $\angle TRS = 60°$, and RT = 3 cm.



5. Draw an isosceles triangle HJV with $\angle HJV = 20°$ and HJ and VJ each 7 cm long.



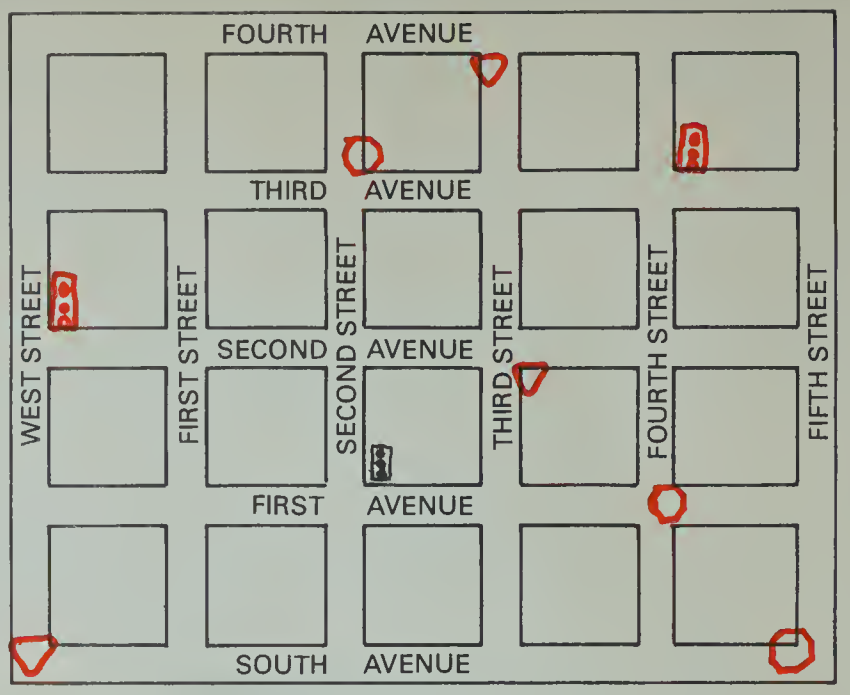
NAME DATE

KEY

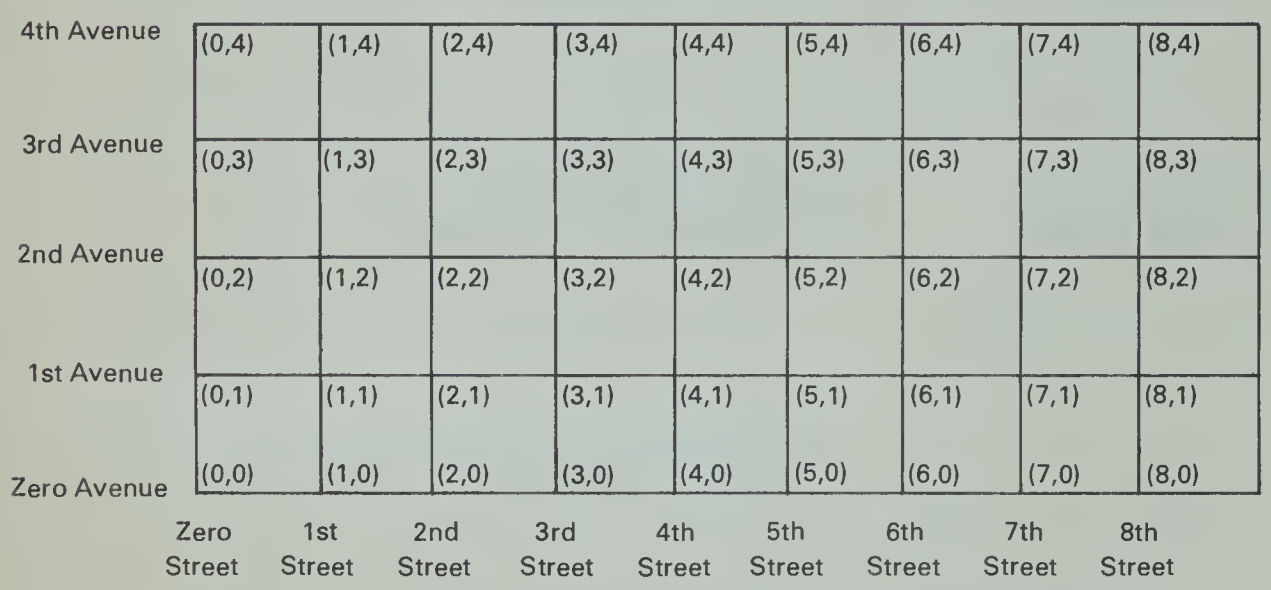
traffic light

stop sign

yield sign



1. Draw each sign at an intersection:
   a) traffic lights at
   Second Street and First Avenue,
   Fourth Street and Third Avenue, and
   West Street and Second Avenue
   b) stop signs at
   Second Street and Third Avenue,
   Fourth Street and First Avenue, and
   Fifth Street and South Avenue
   c) yield signs at
   Third Street and Fourth Avenue,
   Third Street and Second Avenue, and
   West Street and South Avenue.



2. Name each intersection by an ordered pair of numbers.

a) **Second Street and Third Avenue** (2,3)

b) Sixth Street and Zero Avenue (6,0)

c) First Street and Fourth Avenue (1,4)

d) Eighth Street and Third Avenue (8,3)

e) Zero Street and Third Avenue (0,3)

f) Eighth Street and Fourth Avenue (8,4)

g) Zero Street and Zero Avenue (0,0)

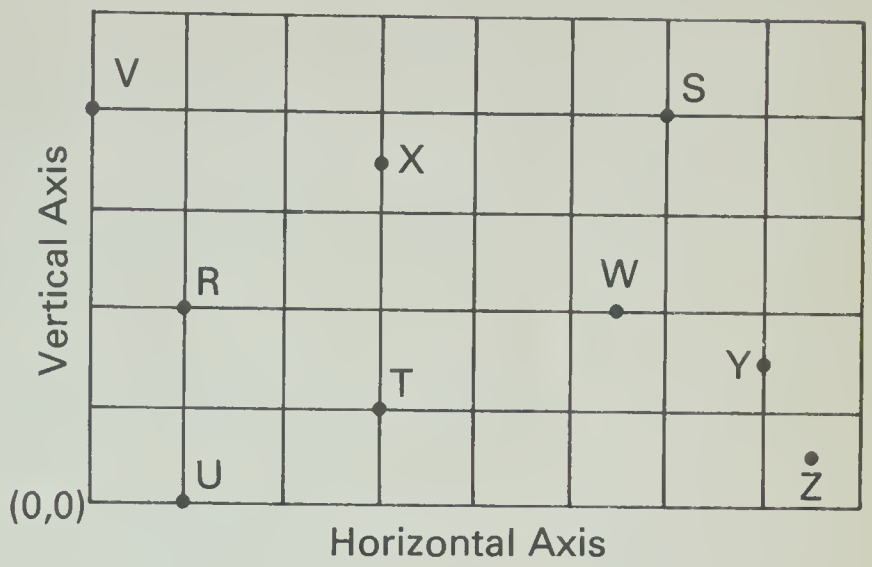
h) Zero Street and Fourth Avenue (0,4)

Additional practice in ordered pairs to follow pages 238 to 240

NAME DATE

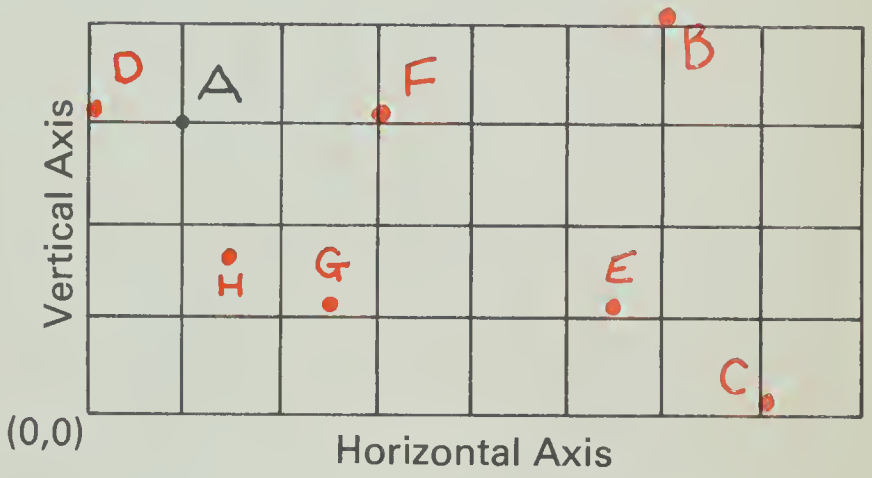
1. Use ordered pairs to name the position of the following points:

R (1, 2)
S (6, 4)
T (3, 1)
U (1, 0)
V (0, 4)
W (5.5, 2)
X (3, 3.5)
Y (7, 1.5)
Z (7.5, 0.5)



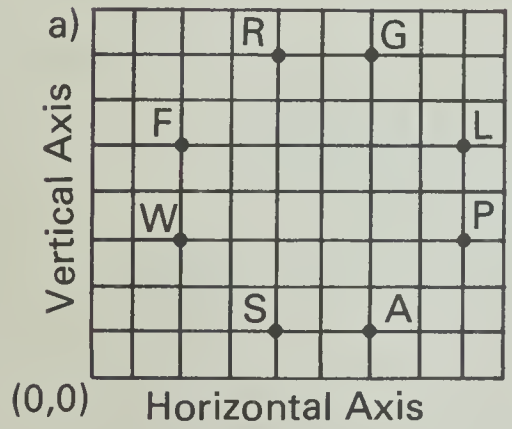
2. Show the following points on the grid.

A (1, 3)
B (6, 4)
C (7, 0)
D (0, 3)
E (5.5, 1)
F (3, 3)
G (2.5, 1)
H (1.5, 1.5)



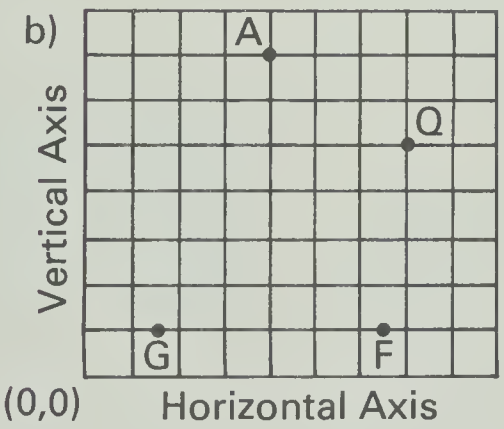
3. Give an ordered pair for each point named.

a)



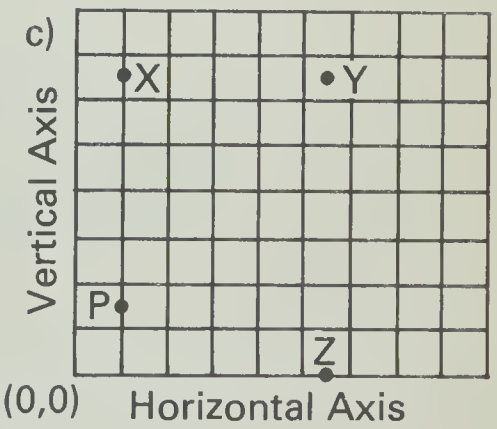
F (2, 5)
R (4, 7)
G (6, 7)
L (8, 5)
P (8, 3)
A (6, 1)
S (4, 1)
W (2, 3)

b)



A (4, 7)
G (1.5, 1)
F (6.5, 1)
Q (7, 5)

c)



P (1, 1.5)
X (1, 6.5)
Y (5.5, 6.5)
Z (5.5, 0)

NAME DATE

1. Divide.

a) $12\overline{)276}$

$$\begin{array}{r} 23 \\ 12\overline{)276} \\ 24 \\ \hline 36 \\ 36 \\ \hline 0 \end{array}$$

Think
How many 12's in 27? - About 2

How many 12's in 36? - 3

b) $24\overline{)912}$

$$\begin{array}{r} 38 \\ 24\overline{)912} \\ 72 \\ \hline 192 \\ 192 \\ \hline 0 \end{array}$$

c) $31\overline{)1736}$

$$\begin{array}{r} 56 \\ 31\overline{)1736} \\ 155 \\ \hline 186 \\ 186 \\ \hline 0 \end{array}$$

d) $42\overline{)2184}$

$$\begin{array}{r} 52 \\ 42\overline{)2184} \\ 210 \\ \hline 84 \\ 84 \\ \hline 0 \end{array}$$

e) $28\overline{)1792}$

$$\begin{array}{r} 64 \\ 28\overline{)1792} \\ 168 \\ \hline 112 \\ 112 \\ \hline 0 \end{array}$$

f) $54\overline{)4698}$

$$\begin{array}{r} 87 \\ 54\overline{)4698} \\ 432 \\ \hline 378 \\ 378 \\ \hline 0 \end{array}$$

g) $25\overline{)2425}$

$$\begin{array}{r} 97 \\ 25\overline{)2425} \\ 225 \\ \hline 175 \\ 175 \\ \hline 0 \end{array}$$

h) $41\overline{)2788}$

$$\begin{array}{r} 68 \\ 41\overline{)2788} \\ 246 \\ \hline 328 \\ 328 \\ \hline 0 \end{array}$$

i) $34\overline{)3094}$

$$\begin{array}{r} 91 \\ 34\overline{)3094} \\ 306 \\ \hline 34 \\ 34 \\ \hline 0 \end{array}$$

j) $60\overline{)3300}$

$$\begin{array}{r} 55 \\ 60\overline{)3300} \\ 300 \\ \hline 300 \\ 300 \\ \hline 0 \end{array}$$

k) $44\overline{)3828}$

$$\begin{array}{r} 87 \\ 44\overline{)3828} \\ 352 \\ \hline 308 \\ 308 \\ \hline 0 \end{array}$$

2. 270 children are in a play day.
There are 18 teams.
How many children on each team?

$$\begin{array}{r} 15 \\ 18\overline{)270} \\ 18 \\ \hline 90 \\ 90 \\ \hline 0 \end{array}$$

There are 15 children in each team.

3. 24 schools each enter the same number of athletes in the field day.
There are 720 participants.
How many athletes are sent from each school?

$$\begin{array}{r} 30 \\ 24\overline{)720} \\ 72 \\ \hline 0 \end{array}$$

30 athletes are sent from each school.

Additional practice in long division, no remainders, to follow page 244

Divide.

a) $33\overline{)397}$

12
33
67
66
1

Think
How many 33's in 39? About 1
How many 33's in 67? About 2

397 ÷ 33 = 12 R1

b) $18\overline{)595}$

33
54
55
54
1

595 ÷ 18 = 33 R1

c) $22\overline{)332}$

15
22
112
110
2

332 ÷ 22 = 15 R2

d) $48\overline{)1686}$

35
144
246
240
6

1686 ÷ 48 = 35 R6

e) $71\overline{)1494}$

21
142
74
71
3

1494 ÷ 17 = 21 R3

f) $38\overline{)1144}$

30
114
04
0
4

1144 ÷ 38 = 30 R4

g) $29\overline{)1482}$

51
145
32
29
3

1482 ÷ 29 = 51 R3

h) $62\overline{)2238}$

36
186
378
372
6

2238 ÷ 62 = 36 R6

i) $81\overline{)1545}$

19
81
735
729
6

1545 ÷ 81 = 19 R6

j) $37\overline{)3225}$

87
296
265
259
6

3225 ÷ 37 = 87 R6

k) $20\overline{)1123}$

56
100
123
120
3

1123 ÷ 20 = 56 R3

l) $63\overline{)5630}$

89
504
590
567
23

5630 ÷ 63 = 89 R23

m) $87\overline{)4918}$

56
435
568
522
46

4918 ÷ 87 = 56 R46

n) $39\overline{)3998}$

102
39
098
78
20

3998 ÷ 39 = 102 R20

o) $74\overline{)7680}$

103
74
280
222
58

7680 ÷ 74 = 103 R58

Additional practice in long division, with remainders, to follow page 244

NAME DATE

Divide. Express the quotient to the nearest tenth.

a) $14\overline{)324.00}$ → 23.14

28
44
42
20
14
60
56
4

Think
How many 14's in 32? - About 2
How many 14's in 44? - About 3
Write 324 as 324.00 and continue.
How many 14's in 20? - About 1
How many 14's in 60? - About 4

324 ÷ 14 = 23.1, to the nearest tenth.

b) $19\overline{)569.00}$ → 29.94

38
189
171
180
171
90
76

569 ÷ 19 = 29.9, to the nearest tenth

c) $27\overline{)697.00}$ → 25.81

54
157
135
220
216
40
27

697 ÷ 27 = 25.8, to the nearest tenth

d) $52\overline{)872.00}$ → 16.76

52
352
312
400
364
360
312

872 ÷ 52 = 16.8, to the nearest tenth

e) $39\overline{)841.00}$ → 21.56

78
61
39
220
195
250
234

841 ÷ 39 = 21.6, to the nearest tenth

f) $42\overline{)584.00}$ → 13.90

42
164
126
380
378
20
0

584 ÷ 42 = 13.9, to the nearest tenth

g) $56\overline{)705.00}$ → 12.58

56
145
112
330
280
500
448

705 ÷ 56 = 12.6, to the nearest tenth

h) $28\overline{)300.00}$ → 10.71

28
200
196
40
28
12

300 ÷ 28 = 10.7, to the nearest tenth

i) $30\overline{)421.00}$ → 14.03

30
121
120
100
90
10

421 ÷ 30 = 14.0, to the nearest tenth

j) $87\overline{)906.00}$ → 10.41

87
360
348
120
87
33

906 ÷ 87 = 10.4, to the nearest tenth

k) $91\overline{)1548.00}$ → 17.01

91
638
637
100
91
9

1548 ÷ 91 = 17.0, to the nearest tenth

l) $61\overline{)483.00}$ → 7.91

427
560
549
110
61
49

483 ÷ 61 = 7.9, to the nearest tenth

m) $27\overline{)387.00}$ → 14.33

27
117
108
90
81
90
81
9

387 ÷ 27 = 14.3, to the nearest tenth

n) $88\overline{)976.00}$ → 11.09

88
96
88
800
792
8

976 ÷ 88 = 11.1, to the nearest tenth

o) $59\overline{)470.00}$ → 7.96

413
570
531
390
354
36

470 ÷ 59 = 8.0, to the nearest tenth

Additional practice in long division, expressing quotient to nearest tenth, to follow page 245

NAME DATE

Divide. Express the quotient to the nearest tenth.

a) 16)34.62 → 2.16; 32; 26; 16; 102; 96; 6

Think
How many 16's in 34? - About 2
How many 16's in 26? - About 1
How many 16's in 102? - About 6

34.62 ÷ 16 = 2.2, to the nearest tenth.

b) 80)99.87 → 1.24; 80; 198; 160; 387; 320; 67

99.87 ÷ 80 = 1.2, to the nearest tenth

c) 27)27.96 → 1.03; 27; 096; 81; 15

27.96 ÷ 27 = 1.0, to the nearest tenth

d) 33)38.49 → 1.16; 33; 54; 33; 219; 198; 21

38.49 ÷ 33 = 1.2, to the nearest tenth

e) 47)56.35 → 1.19; 47; 93; 47; 465; 423; 42

56.35 ÷ 47 = 1.2, to the nearest tenth

f) 20)23.31 → 1.16; 20; 33; 20; 131; 120; 11

23.31 ÷ 20 = 1.2, to the nearest tenth

g) 12)14.99 → 1.24; 12; 29; 24; 59; 48; 11

14.99 ÷ 12 = 1.2, to the nearest tenth

h) 30)70.53 → 2.35; 60; 105; 90; 153; 150; 3

70.53 ÷ 30 = 2.4, to the nearest tenth

i) 78)84.19 → 1.07; 78; 619; 546; 73

84.19 ÷ 79 = 1.2, to the nearest tenth

j) 46)58.80 → 1.27; 46; 128; 92; 360; 322; 38

58.80 ÷ 46 = 1.3, to the nearest tenth

k) 66)91.84 → 1.39; 66; 258; 198; 604; 594; 10

91.84 ÷ 66 = 1.4, to the nearest tenth

l) 22)55.41 → 2.51; 44; 114; 110; 41; 22; 19

55.41 ÷ 22 = 2.5, to the nearest tenth

m) 19)40.88 → 2.15; 38; 28; 19; 98; 95; 3

40.88 ÷ 19 = 2.2, to the nearest tenth

n) 82)91.74 → 1.11; 82; 97; 82; 154; 82; 72

91.74 ÷ 82 = 1.1, to the nearest tenth

o) 43)68.74 → 1.59; 43; 257; 215; 424; 387; 37

68.74 ÷ 43 = 1.6, to the nearest tenth

NAME DATE

Divide. Express the quotient to the nearest tenth.

a) **62 by 5.6**

$$\begin{array}{r} 11.07 \\ 56\overline{)620.00} \\ 56 \\ \hline 60 \\ 56 \\ \hline 400 \\ 392 \\ \hline 8 \end{array}$$

Think
$62 \div 5.6 = (62 \times 10) \div (5.6 \times 10)$
$= 620 \div 56$
For 620, you can write 620.00.

$62 \div 5.6 = 11.1$, to the nearest tenth.

b) 91 by 7.2

$$\begin{array}{r} 12.63 \\ 72\overline{)910.00} \\ 72 \\ \hline 190 \\ 144 \\ \hline 460 \\ 432 \\ \hline 280 \\ 216 \\ \hline 64 \end{array}$$

$91 \div 7.2 = 12.6$, to the nearest tenth

c) 28 by 3.9

$$\begin{array}{r} 7.17 \\ 39\overline{)280.00} \\ 273 \\ \hline 70 \\ 39 \\ \hline 310 \\ 273 \\ \hline 37 \end{array}$$

$28 \div 3.9 = 7.2$, to the nearest tenth

d) 89 by 8.7

$$\begin{array}{r} 10.22 \\ 87\overline{)890.00} \\ 87 \\ \hline 200 \\ 174 \\ \hline 260 \\ 174 \\ \hline 86 \end{array}$$

$89 \div 8.7 = 10.2$, to the nearest tenth

e) 62 by 4.9

$$\begin{array}{r} 12.65 \\ 49\overline{)620.00} \\ 49 \\ \hline 130 \\ 98 \\ \hline 320 \\ 294 \\ \hline 260 \\ 245 \\ \hline 15 \end{array}$$

$62 \div 4.9 = 12.7$, to the nearest tenth

f) 50 by 8.4

$$\begin{array}{r} 5.95 \\ 84\overline{)500.00} \\ 420 \\ \hline 800 \\ 756 \\ \hline 440 \\ 420 \\ \hline 20 \end{array}$$

$50 \div 8.4 = 6.0$, to the nearest tenth

g) 99 by 7.8

$$\begin{array}{r} 12.69 \\ 78\overline{)990.00} \\ 78 \\ \hline 210 \\ 156 \\ \hline 540 \\ 468 \\ \hline 720 \\ 702 \\ \hline 18 \end{array}$$

$99 \div 7.8 = 12.7$, to the nearest tenth

h) 124 by 5.8

$$\begin{array}{r} 21.37 \\ 58\overline{)1240.00} \\ 116 \\ \hline 80 \\ 58 \\ \hline 220 \\ 174 \\ \hline 460 \\ 406 \\ \hline 54 \end{array}$$

$124 \div 5.8 = 21.4$, to the nearest tenth

i) 320 by 4.4

$$\begin{array}{r} 72.72 \\ 44\overline{)3200.00} \\ 308 \\ \hline 120 \\ 88 \\ \hline 320 \\ 308 \\ \hline 120 \\ 88 \\ \hline 32 \end{array}$$

$320 \div 4.4 = 72.7$, to the nearest tenth

j) 824 by 9.7

$$\begin{array}{r} 84.94 \\ 97\overline{)8240.00} \\ 776 \\ \hline 480 \\ 388 \\ \hline 920 \\ 873 \\ \hline 470 \\ 388 \\ \hline 82 \end{array}$$

$824 \div 9.7 = 84.9$, to the nearest tenth

k) 609 by 81

$$\begin{array}{r} 7.51 \\ 81\overline{)609.00} \\ 567 \\ \hline 420 \\ 405 \\ \hline 150 \\ 81 \\ \hline 69 \end{array}$$

$609 \div 81 = 7.5$, to the nearest tenth

l) 286 by 8.2

$$\begin{array}{r} 34.87 \\ 82\overline{)2860.00} \\ 246 \\ \hline 400 \\ 328 \\ \hline 720 \\ 656 \\ \hline 640 \\ 574 \\ \hline 66 \end{array}$$

$286 \div 8.2 = 34.9$, to the nearest tenth

m) 534 by 5.1

$$\begin{array}{r} 104.70 \\ 51\overline{)5340.00} \\ 51 \\ \hline 240 \\ 204 \\ \hline 360 \\ 357 \\ \hline 30 \end{array}$$

$534 \div 5.1 = 104.7$, to the nearest tenth

n) 396 by 4.7

$$\begin{array}{r} 84.25 \\ 47\overline{)3960.00} \\ 376 \\ \hline 200 \\ 188 \\ \hline 120 \\ 94 \\ \hline 260 \\ 235 \\ \hline 25 \end{array}$$

$396 \div 4.7 = 84.3$, to the nearest tenth

o) 729 by 6.4

$$\begin{array}{r} 113.90 \\ 64\overline{)7290.00} \\ 64 \\ \hline 89 \\ 64 \\ \hline 250 \\ 192 \\ \hline 580 \\ 576 \\ \hline 40 \end{array}$$

$729 \div 6.4 = 113.9$, to the nearest tenth

Additional practice in long division, a whole number by a decimal number, to follow page 246

NAME DATE

1. Divide. Express the quotient to the nearest tenth.

a) **12.3 by 2.9**

Think
12.3 ÷ 2.9 = (12.3 × 10) ÷ (2.9 × 10)
= 123 ÷ 29

```
   4.24
29)123.00
  116
   70
   58
  120
  116
    4
```

12.3 ÷ 2.9 = 4.2, to the nearest tenth.

b) 18.4 by 5.8

```
   3.17
58)184.00
  174
   100
    58
    420
    406
     14
```

18.4 ÷ 5.8 = 3.2, to the nearest tenth

c) 46.5 by 8.1

```
   5.74
81)465.00
  405
   600
   567
    330
    324
      6
```

46.5 ÷ 8.1 = 5.7, to the nearest tenth

d) 9.58 by 3.3

```
   2.90
33)95.80
  66
  298
  297
   10
    0
```

9.58 ÷ 3.3 = 2.9, to the nearest tenth

e) 7.49 by 6.7

```
   1.11
67)74.90
  67
   79
   67
   120
    67
```

7.49 ÷ 6.7 = 1.1, to the nearest tenth

f) 12.15 by 3.4

```
   3.57
34)121.50
  102
   195
   170
    250
    239
```

12.15 ÷ 3.4 = 3.6, to the nearest tenth

g) 8.30 by 4.2

```
   1.97
42)83.00
  42
  410
  378
   320
   294
```

8.30 ÷ 4.2 = 2.0, to the nearest tenth

h) 13.42 by 8.1

```
   1.65
81)134.20
  81
  532
  486
   460
   405
```

13.42 ÷ 81 = 1.7, to the nearest tenth

i) 5.36 by 4.8

```
   1.11
48)53.60
  48
   56
   48
    80
    48
```

5.36 ÷ 4.8 = 1.1, to the nearest tenth

j) 9.78 by 3.3

```
   2.96
33)97.80
  66
  318
  297
   210
   198
```

9.78 ÷ 3.3 = 3.0, to the nearest tenth

k) 6.89 by 5.1

```
   1.35
51)68.90
  51
  179
  153
   260
   255
```

6.89 ÷ 5.1 = 1.4, to the nearest tenth

2. 15.5 m of cloth is to be cut into 2.5 m lengths. How many 2.5 m lengths will there be?

```
   6.20
25)155.00
  150
   50
   50
    0
```

There will be 6 lengths of cloth.

3. A board 142.8 cm is cut into 8.5 cm lengths. How many 8.5 cm pieces will there be?

```
   16.8
85)1428.0
  85
  578
  510
   680
   680
     0
```

There will be 16 pieces of board.

NAME DATE

World Records
Orthlieb Pool, Casablanca, Morocco

1. a) **The length of the longest swimming pool is 480 m.**
How far would Anita swim if she swam 2 lengths of the pool?

1 length = 480 m
2 lengths = (480 × 2) m
= 960 m
She would swim 960 m.

b) The width of the pool is 75 m.
How far would you swim if you swam 6 widths?

RE
1 width = 75 m
6 widths = (75 × 6) m
= 450 m
I would swim 450 m.

c) Which is further, 1 length or 6 widths? By how much?

1 length = 480 m
6 widths = 450 m
30 m
1 length is further, by 30 m.

2. The champion bucking steer "Aught" had 482 riders.
He tossed 476 of them in less than 8 min each.
How many riders were able to stay on for 8 min or longer?

482
476
6

6 riders were able to stay on 8 min or longer.

3. The largest bed belonged to Philip, Duke of Burgundy.
It was 366 cm wide.
If a man is approximately 50 cm wide, how many men could lie side by side across the width?

$50\overline{)366}$ 7
350
16

7 men could lie side by side across the width.

4. The oldest portable watch was made in Nuremberg, Germany in 1504.
How old is it now?

Answer will vary.

5. The oldest wristwatch was made in Geneva, Switzerland in 1790.
How old is it now?

Answer will vary.

6. The longest cigar ever made can be found in the Bunde Tobacco and Cigar Museum, Germany.
It measured approximately 170 cm.
How many metres long is it?

170 ÷ 100 = 1.7

The cigar is 1.7 m long.

7. The largest loaf of bread was baked in New Zealand in 1968.
It measured approximately 2014 cm in length.
How many metres long was it?

2014 ÷ 100 = 20.14

The loaf of bread is 20.14 m long.

Additional practice in word problems to follow pages 220 to 246

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